

Communication Partner Training for the  
Primary Caregivers of People with Aphasia in  
India: A multi-phase exploratory study

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## Abstract

Aphasia, as an acquired communication disability, has an impact beyond the language impairment, affecting life participation and quality of life. Communication Partner Training (CPT) is an evidence-based intervention which aims to equip typically communicating people (from family members to healthcare workers) in the use of strategies to support communication for people with aphasia. The evidence for CPT has very limited representation from majority world countries (non-English speaking and typically low- and middle- income countries). Given that CPT aims to improve the communication between a person with aphasia and a communication partner, the sociocultural context is likely to be an important factor. This study aims to expand the evidence base on CPT to the complex and diverse socio-cultural context of India.

Using a multi-phase mixed method approach, this study explores the application of CPT within one Indian state (Karnataka) by first applying ethnographic methods to the observation of two families living with aphasia. This emic perspective informed the development of a manualised, scripted intervention protocol—Communication Partner Training for the primary caregivers of people with aphasia in India (CPT-In). The impact of aphasia for 14 family dyads in which one member had aphasia, was explored using the Kagan Scales, the Kannada version of the Stroke and Aphasia Quality of Life Scale (SAQoL-K) and the adapted Sense of Coherence 13 item Scale (SOC-13); and qualitatively through an analysis of naturalistic conversations using Communication Accommodation Theory. A subset of 6 dyads then went on to participate in an exploratory multiple baseline intervention study, using a single-subject experimental design to investigate the impact of CPT-In. The combined quantitative and qualitative lenses were then used to investigate whether the CPT achieved the desired aims of (1) enhancing the use of facilitative communication strategies and (2) reducing the use of obstructive strategies during interaction. Weighted statistics were used to assess the change attributed to CPT-In on the Kagan Scales, SAQoL-K and SOC-13. Detailed qualitative analysis was applied to forty conversations, using the framework of Communication Accommodation Theory to investigate changes in communicative adjustments.

The findings suggested that in both the baseline and follow up conversations, facilitative and obstructive adjustments occurred together across all dyads. Some communication partners showed an increase in instances of facilitative behaviour and decrease in instances of obstructive communicative behaviour following CPT-In. A transition was also observed in communication behaviour from a focus on the more social aspects of interaction to a focus on the meaning and interactional elements. This study acts as a strong starting point for a new era of research and development in aphasia rehabilitation within the Indian context and that of culturally similar majority world countries.

## Declaration

*I declare that this thesis has not been submitted as an exercise for a degree at this or any other university and it is entirely my own work.*

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Analisa Marie Pais  
February, 2022



*For David and Rosemarie Pais,  
My parents, my biggest inspiration, and my backbone.*

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## Summary

This thesis is about aphasia in the Indian context and the impact of CPT on communication and wellbeing for people with aphasia and their communication partners within this context. Aphasia, as an acquired communication disability, has an impact beyond the language impairment, affecting life participation and quality of life. Communication Partner Training (CPT) is an evidence-based intervention which aims to equip typically communicating people (from family members to healthcare workers) in the use of strategies to support communication for people with aphasia. The evidence for CPT has very limited representation from majority world countries (non-English speaking and typically low- and middle- income countries). Given that CPT aims to improve the communication between a person with aphasia and a communication partner, the sociocultural context is likely to be an important factor. This study aims to expand the evidence base on CPT to the complex and diverse socio-cultural context of India.

A pragmatist approach was used, taking a single-paradigmatic stance to guide this study. In line with pragmatic philosophy, the method is chosen following careful reflection on the “why to” and “how to” questions of research—The focus is therefore both on the goals of the research and the steps taken to achieve those goals (Morgan, 2014). This study used a mixed methods approach following a multi-phase design including qualitative and mixed phases. Each phase of this study links informatively to the next phase with the overarching objective of exploring the feasibility and impact of implementing CPT in the rehabilitation of people with aphasia in India.

The first phase of the study, a purely qualitative component of the larger study, explored the context of two Indian families living with aphasia using ethnographic methods. The reflective perspectives on qualitative research and specifically reflexive thematic analysis of Virginia Braun and Victoria Clarke (2019; 2016, 2018) informed the analysis of the data generated from detailed documented observations. The goal of this phase was to inform the adaptation and development of a conversation partner training approach that is recommended by best practice principles (Simmons-Mackie, Raymer, et al., 2016; Simmons-Mackie, Worrall, et al., 2016). The findings provide evidence of the sense of loss experienced by both people with aphasia and their families, the challenges with communication and access to social participation and its impact on their well-being. The findings also provide insight into some of the adjustments made by the primary caregivers to communicate with, interact, care for, and support their loved one with aphasia. In addition, the findings from this phase of the study, suggest the potential for extending training to include family members beside just the spouse or partner of the person with aphasia as communication partners to be trained (CPT-In) in the next phase of the study. These findings informed decisions regarding the elements included in the training and the structure and delivery of the intervention. The procedures followed for the adaptation and development of the CPT-In intervention explored in this study followed phase one. The application of FRAME (Stirman et al., 2013, 2019) in this thesis, to describe the adaptation and development of the CPT-In tool based on the CP-toolkit supports the transparency of the reporting of the intervention and will allow its replication in future studies.

In phase two of the study, an exploratory multiple baseline intervention study was conducted in the form of a single subject experimental design. Quantitative-experimental methods were used to quantifiably describe and explore (Howe, 2012) the relationship between providing CPT to primary givers of people with aphasia and a) conversation within the dyad, b) quality of life of the PWA and c) the sense of coherence of the family member. When theorising communication, however, research often only partially represents the total “subtlety of contextualised interaction” (Giles et al., 2010, p. 1). In the context of communication and disability, methodological and experimental constraints further impose (*ibid*) on the aspects of communication represented. To obtain a more comprehensive understanding of the data from phase two, communication between people with aphasia and their primary caregivers living in India, are therefore contextualised at a dyadic level and the impact of communication partner training for the primary caregivers is explored by applying Communication Accommodation Theory. This exploration informed the understanding of the psychosocial processes that underlie communication in interaction and how exposure to communication partner training might influence some of the conscious adaptations made in interaction between people with aphasia and their primary caregivers. The combined quantitative and qualitative lenses were used to investigate whether the CPT achieved the desired aims of (1) enhancing the use of facilitative communication strategies and (2) reducing the use of obstructive strategies during communication interaction. The findings of this phase of the study suggested that in both the baseline and follow up conversations, facilitative and obstructive adjustments occurred together in a vast number of turns across all dyads. Those dyads for whom improvements in communication, by way of increased instances of facilitative behaviour and decreased instances of obstructive communicative behaviour in the turns of the communication partner were observed, also demonstrated an improvement in the conversation overall. A transition was also observed in communication behaviour from a focus on the more social aspects of interaction to a focus on the meaning and interactional elements. However, though improvements were seen in some dyads, there was still some amount of disruptiveness to the overall flow of natural conversation observed. Overall, the findings from the second phase of the study suggest that CPT-In has a positive impact on conversations involving people with aphasia in the Indian context. However, dyad specific factors may influence the extent to which the strategies are adopted.

The application of mixed methods and pragmatic philosophy allowed the researcher to design a rigorous study that was well suited to explore the application of CPT within the complex and challenging sociocultural context of India. The findings of this study suggest the feasibility and application of CPT in the context of complex resource-constrained majority world countries with benefits for pWA of varying severities particularly in the chronic stages with some evidence for pWA in the acute stages (Simmons-Mackie, Raymer, et al., 2016). While the findings also suggest that the implementation saw some challenges with regards to duration, internalising the training, and the attitudes towards communication, that warrant consideration, this study acts as a strong starting point for a new era of research and development in aphasia rehabilitation within the Indian context and that of culturally similar majority world countries.

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## List of Acronyms

|        |   |
|--------|---|
| PWA    | Person with Aphasia   |
| pWA    | People with Aphasia   |
| CP     | Communication Partner   |
| PWD    | Person with Disability  |
| CPT    | Communication Partner Training  |
| CPT-In | Communication Partner Training for Primary Caregivers of People with Aphasia in India |
| SCA    | Supported Conversation for Aphasia  |
| CBR    | Community Based Rehabilitation  |
| CAT    | Communication Accommodation Theory  |
| (M)SCA | Measure of Support in Conversation for Adults with Aphasia                            |
| (M)PCA | Measure of Participation in Conversation for Aphasia                                  |
| QoL    | Quality of Life   |
| SAQoL  | Stroke and Aphasia Quality of Life  |
| SOC    | Sense of Coherence  |
| CAT    | Communication Accommodation Theory  |
| MMR    | Mixed Method Research   |
| SSEDs  | Single Subject Experimental Designs   |

## Note on terminology

The use of terminology from different disciplines warrants addressing at the outset. Footnotes have been made to explain those terms which appear only occasionally. Here, I address three commonly occurring terms that appear throughout this thesis— *‘Majority and minority world’*, *‘communication partners’* and *‘adjustment’* as well as the three terms used in the literature on CAT to describe the people involved in communication— *‘speaker’* and *‘receiver’* (Soliz & Bergquist, 2016).

*Majority and minority world* — The term ‘majority world’ was coined by Shahidul Alam (2008) to highlight that those countries in this list formerly referred to as ‘third-world countries’ or ‘developing countries’. While the United Nations use the more popular term, ‘Global South’ for these countries, I use the term ‘majority world’ to highlight that these countries indeed house the majority of the world’s population and peoples but, despite this majority, they are often excluded from major academic reviews and have a smaller presence in the published academic literature. The lack of evidence on such ‘majority world countries’ such as India has an expectable impact on the quality of practice and the services delivered to their resident citizens. In contrast, ‘minority world’ refers to those countries formerly referred to as ‘first world’ or ‘developed countries’. These, usually high income countries, house the minority of the world’s population but are over-represented in academic literature.

*Communication partners* — This term is used to refer to those people who are engaged in communication with the person with aphasia in any interaction.

*Adjustment* — This term, from Communication Accommodation Theory (CAT), refers to any adjustment made to a person’s verbal and non-verbal communicative behaviour during interaction with another (Gasiorek, 2016). In this thesis, I focus on adjustments made by people with aphasia and their communication partners during interaction with each other. Those adjustments that support and enhance communication are termed ‘facilitative’ and those that hinder communication are termed ‘obstructive’.

*Speaker* — This term is used to refer to the person initiating a conversational topic or turn during ongoing interaction. It is used to refer to the person ‘speaking’ or producing a communicative utterance during the turn.

*Receiver* — This term is used to refer to the listener during the turn or interaction. The terms listener and receiver are used interchangeably. Listeners in some instances may also refer to third-party listeners.

## **Section One**



## 1 Introduction

Aphasia, as an acquired communication disability, has an impact beyond the language impairment, affecting life participation and quality of life (Berg et al., 2020). Within the Indian context, most of the literature and advancements in the field of aphasia rehabilitation has focussed on addressing the impaired linguistic skills. Principles of best-practice and recommendations built on evidence-based practice, however, suggest that intervention must also focus on modifying the communication environment for pWA (Simmons-Mackie et al., 2016, 2017) and have specified that intervention should focus on training communication partners in the use of supportive communication strategies (Hebert et al., 2016; Simmons-Mackie et al., 2016, 2017). This thesis therefore aims to expand the rapidly growing evidence base on communication partner training to the context of India where CPT has yet to be explored.

To introduce CPT to the Indian context, the first questions that arose surrounded the applicability of existing CPT approaches within the context, the relevance of existing training resources, and the appropriateness of existing outcome measures to capture the outcomes of the CPT intervention developed. The study was therefore divided into two phases. The first phase was designed to understand the context of aphasia within an Indian family. The aim of phase one was to explore the domestic lives of people with aphasia and their primary communication partners in the Indian context, through ethnographic methods, and identify the adaptations that would need to be made to a CPT programme, to enhance its relevance and appropriateness within this context. The researcher's own background – having trained and practiced within India – further influenced the inquiry and aided the understanding of the relevance of existing approaches and training resources to the Indian context. In phase two, the novel 'Communication Partner Training for the Primary Caregivers of People with Aphasia in India (CPT-In)' was piloted with families within the South Indian state of Karnataka. The aim of phase two was to explore the applicability and impact of a single, generic, programmatic (manualised) intervention, that is, CPT-In for the primary communication partners of people with aphasia in India.

This chapter provides an orientation to this thesis, describing the context of the researcher and the roles undertaken, and outlining the aims and the structure of the thesis.

### 1.1 The researcher—background, preliminary work and roles undertaken

I approached this study as a researcher and a clinician with experience within the Indian context and with exposure to the Irish context. The contrasting contexts of a high-income country (Ireland) and a low and middle-income country (India) positioned me to be able to reflect on the socio-cultural and contextual considerations of the Indian context when applying evidence-based interventions and recommendations from high income countries to the context of India. My personal, clinical and academic experiences within both contexts influenced the planning, designing and implementation of this study. In consideration of the qualitative elements of this multiphase mixed-method study, it is important to acknowledge the influence of my background on these processes as well as on the application and interpretation of the framework of communication accommodation theory (CAT) (Coupland

et al., 1988; Dragojevic et al., 2015) to the context of communication and aphasia in India as carried out in phase two.

In phase one, my own background influenced the way I approached the context of people with aphasia and their family members within their homes. To take on the role of participant observer, I underwent training and practice in ethnographic observations within the Irish context, under an experienced ethnographer—Dr. Rozanne Barrow. This facilitated my ability to take on the role of participant observer during my data collection within the homes of people with aphasia and their families in India. Sensitivity to socio-cultural norms, traditions, religious practices supported my integration within the home-context of the two families. This sensitivity as well as knowledge of clinical and speech and language therapy practices within the Indian context both supported and influenced my understanding and interpretation of the ethnographic observations made as a participant observer. Interpretation of the observations made as well as my sensitivity to Indian culture and my own ethnicity also supported and influenced the adaptation and development of a communication partner training approach for primary caregivers of people with aphasia in India.

Prior to carrying out the ethnographic study, I carried out a preliminary study on the perspectives of SLTs working in select high income and low-middle income countries on Communication Partner approaches and the involvement of family members in the rehabilitation and reintegration of people with aphasia. This study was carried out using an international questionnaire. The findings (see Appendix 1) suggested that despite the low levels of knowledge and awareness of CPT approaches as indicated by SLTs in India, when briefed on CPT approaches, the SLTs indicated that they felt CPT could have potential within the Indian context. Most SLTs indicated the lack of knowledge and resources as reasons for not having attempted implementation or practice of CPT. Although not reported in this thesis, these preliminary findings supported the impetus for the study to develop culturally relevant resources and adapt and further develop the training to suit the context of the family members of people with aphasia in India.

In phase two of the study, I first undertook the task of adapting and developing the training resources for use in the trial. My knowledge and experiences of the cultural context as well as of the philosophy and the concepts underlying CPT, further facilitated this process. Adaptation was also required for one of the outcome measures – the Sense of Coherence scale. The procedure for adaptation, development, translation and validation are described in chapter 7 of thesis. During the process of data collection for the CPT-In trial, I took on the roles of assessor and trainer. My cultural and linguistic background facilitated these procedures and sensitivity to unique cultural and linguistic presentations in the data such as the frequent use of non-words to rhyme with words prevented misinterpretation of such features. This sensitivity as well as my prior clinical experiences within India, enabled me to apply the principles of communication accommodation theory to interactions involving Indian people with a communication disability such as aphasia and their family members.

## 1.2 Objectives and structure of the thesis

The research questions developed, stemmed from identified gaps in the evidence base surrounding CPT and aphasia rehabilitation in the Indian context. This study was guided by the overarching research question: Is communication partner training applicable to people with aphasia and their primary caregivers within the complex sociocultural context of India?

This overarching question is underpinned by the following sub-questions:

1. What linguistic and cultural adaptations are required to make CPT materials relevant for the Indian context?
2. Is CPT acceptable to families and people with aphasia in the sociocultural context of India?
3. What is the impact of training the significant others of people with aphasia as Communication Partners, in terms of participation and wellbeing within the family unit, in the Indian context?

The main objective of the study is to broaden the evidence base of CPT approaches to the rehabilitation of people in a majority world country such as India; four objectives were identified as needing to be met.

1. To adapt the CONNECT Communication Partner Scheme's partner training modules for the primary caregivers of people with aphasia in India by identifying context-specific training and intervention needs of pWA and their family members
2. To analyse the efficacy of CPT for primary caregivers in facilitating successful interactions between pWA and their caregivers.
3. To analyse the impact of CPT for primary caregivers on the quality of life of the pWA.
4. To analyse the impact of CPT for primary caregivers on the sense of coherence of the primary caregivers.

The literature review is presented across three chapters. Chapter 2, *Aphasia—Communication, Impact and Partner Training* sets the scene for this thesis. It describes what is known about the impact of aphasia on the dynamics of communication, on quality of life of people with aphasia and on caregivers. This chapter also introduces the concept of the social model of disability as applied to aphasia and subsequently reviews the literature surrounding communication partner approaches to the reintegration of people with aphasia. Chapter 3, *Socio-Cultural Considerations in Communication Interventions: The Indian Context* explores the literature on the Indian context, specifically the culturally unique features of family life, including roles, relations, and interaction styles. The literature on disability in relation to attitudes and the involvement of family are discussed drawing links to ancient beliefs and practices, and also discusses some of the broad transitions in this regard. Finally, the chapter discusses aphasia rehabilitation within the Indian context and considers the influence of culture, beliefs and attitudes on current practices. Chapter 4, *Communication Accommodation Theory (CAT)* describes the theoretical framework and its application to family communication drawing some links to communication involving people with aphasia. The application of its theoretical framework as a tool for analysing communication is also discussed before suggesting its relevance to this study.

The methods are described across chapters 5 and 6. In chapter 5, the methodological and philosophical underpinnings that have guided the planning, design and execution of this study

are discussed. The chapter discusses the value of employing mixed methods as a methodological paradigm and working under a pragmatic philosophical paradigm to address the research questions that govern this study. Chapter 6 then addresses the ethical considerations and describes the procedures followed to carry out both phases one and two, the instruments used, and the development of the coding framework based on application of the CAT framework to the context of communication involving people with aphasia and their primary communication partners. Details of the participants and the data collected in phase two are also provided in this chapter. The participant details for phase one, however, are integrated with its findings in chapter 8 as is the practice in ethnographic methods.

Chapter 7, *Adaptation and Cross-cultural Validation* describes the procedures followed for the cultural and linguistic adaptation of the 'Sense of Coherence 13-item scale (SOC-13)' (Antonovsky, 1987) and the adaptation and development of the intervention protocol - The 'Communication Partner Training for Primary Caregivers of People with Aphasia in India' (CPT-In). Transparency and detailing of the procedures followed and the elements adapted has been ensured in this chapter. The modification framework (FRAME) proposed by (Stirman et al., 2013, 2019) is also applied in this chapter to describe the adaptations and maintenance of the fidelity of the intervention. Samples of the resources developed are also provided in this chapter, more of which are provided in the appendices.

The findings of this study are presented across four chapters. In chapter 8, *"None to share things with": Impact of Aphasia*, I present the data based on a study of two families in which the husband has aphasia, explored using ethnographic techniques. The chapter provides a contextualized description of the domestic lives of each of the two families and subsequently, the findings from reflexive thematic analysis of the data are described. In addition to informing the development of the CPT-In intervention, the findings described in this chapter provide rich context for the reader, on living with aphasia in India. Chapter 9, *The impact of aphasia on conversation* presents the findings of the study in relation to conversational support and participation in interactions involving people with aphasia (pWA) and their communication partners (CPs) who have *not* received communication partner training (CPT). This chapter applies 'Communication Accommodation Theory' (CAT) to describe the features of adjustment observed in the communication of both people with aphasia and their primary communication partners as well as draws patterns and links between the adjustments made by CPs and those made by the pWA. Chapter 10, *The Impact of Communication Partner Training on Conversation*, follows on from chapter 9 and focuses on the impact of CPT-In on the communication of 6 dyads. Each dyad is examined in turn in this chapter through two lenses— firstly through scores on measures of conversation and secondly, through Communication Accommodation Theory (CAT). Chapter 11, *Impact of Aphasia and Communication Partner Training on Quality of Life and Sense of Coherence* is the final chapter in the findings section. This chapter describes the impact of communication partner training on the person with aphasia in terms of reported quality of life and on the family members in terms of their 'sense of coherence' and contextualises these findings by presenting the baseline scores of all dyads (including those who did not participate in CPT-In). Across the findings chapters, the **clients** (C) with aphasia are given names beginning with C, in contrast to the names used for the **partners** (P), in which the pseudonyms begin with P.

The discussion of implications of key findings from this thesis is presented across chapters 12 and 13. Chapter 12, *Addressing the impact of aphasia & CPT in the Indian context*, addresses the clinical and methodological implications of the study, including the contributions of this study to the evidence base on aphasia and CPT. The implications of the study for the linguistic and cultural adaptation of the evidence-based CPT interventions to the Indian context as well as methodological considerations in terms of the design of the study and the analysis of the data are discussed in this chapter. Chapter 13, *Applying and extending Communication Accommodation Theory*, is structured in two main sections, 'Applying CAT' and 'Extending CAT', to address the novel insights generated through the application of CAT to interaction between pWA and their CPs.

Finally, chapter 14, *Looking ahead: Limitations and future directions*, describes the limitations of the study, the proposed future directions and the final conclusions which concludes this thesis.

## **2 Aphasia: Communication, impact, and partner training**

Aphasia, as defined following a recently established consensus<sup>1</sup> by Berg, Isaksen, Wallace and colleagues is—

“a communication disability due to an acquired impairment of language modalities caused by focal brain damage. Aphasia may affect participation and quality of life of the person with aphasia as well as their family and friends. Aphasia masks competence and affects functioning across relationships, life roles and activities, thereby influencing social inclusion, social connectedness, access to information and services, equal rights, and wellbeing in family, community and culture” (2020, p. 1)

In this chapter, I first focus on the dynamics of communication and changes when aphasia is involved (section 2.1). I then describe the impact of aphasia on the participation (2.2.1) and quality of life (2.2.2) of people with aphasia (pWA) and the impact on caregivers (2.2.3). In section 2.3, I explore aphasia and ‘sense of coherence’, a concept which pertains to health-promoting activities and lifestyles and the concept of ‘salutogenesis’ (Antonovsky, 1996). In section 2.4 transitions in approaches to aphasia rehabilitation are briefly addressed, following which the social model of rehabilitation as applied to aphasia is then introduced (see section 2.5) to lay the ground for Communication Partner Approaches which are discussed in section 2.6. The chapter concludes with a summary (section 2.7) of how the concepts described set the scene for research presented in the chapters which follow.

### **2.1 Communication and aphasia**

Communication is a collaborative and constructive act (Kagan et al., 2001) that involves a meaningful interactive exchange of information between a speaker<sup>2</sup> and one or more listeners. It is the job of both the interacting individuals to initiate, maintain and close the conversation. Communication can take different forms, using different verbal and nonverbal modalities of communication. The way in which a person communicates is often dependent on the person’s cultural and linguistic background and is also influenced by the person’s education, experiences of social interaction, ability, and the perceived social, cognitive, linguistic and cultural attributes of interlocutor(s) with whom the person is communicating (Palomares et al., 2016). Communication therefore does not merely involve the exchange of information but also has an interactional function (Brown & Yule, 1983); there exists a chain of underlying psychological processes that influence the interaction between individuals in conversation. For communication to be effective, the modality of communication used by the speaker must be one that is accessible to the listener. To engage in meaningful communication, individuals often consciously or unconsciously adapt their communicative behaviour (Giles et al., 2010) or modality of communication to enhance its accessibility and engage-ability for their communication partner. Meaningful and effective communication is important because it is fundamental

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<sup>1</sup> The agreement level set for consensus was at 70% agreement from 80% of the members of the Collaboration of Aphasia Trialists (CATs) (Berg et al., 2020)

<sup>2</sup> Speaker—The communicator producing the utterance in any modality

to humanity (McLeod, 2018), central to enjoying other human rights (Jago, 2018) and is the “vehicle for social participation” (Kagan et al., 2001, p. 625).

Everyday communication includes a wide range of purposes and acts such as conversing, negotiating, consoling, flirting, arguing and non-verbal posturing (Austin, 1975; Searle, 1976; Simmons-Mackie & Damico, 2007). Communication is also crucial to the maintenance of social relationships, including family relationships which require joint effort (and hence communication) from all members of the family unit (Leeds-Hurwitz, 2006). Within social units, participants are jointly, rather than individually engaged in the construction and negotiation of meaning in a coordinated manner (Simmons-Mackie & Damico, 2007). However, these social units such as the family unit may witness changing dynamics overtime which can have an effect on the existing social relationships. While it is important that members periodically recognise and address these changes, they may have to adapt in order to repair the unit and maintain the existing bond and relationships (Leeds-Hurwitz, 2006). What worked at one point in time, might not work at another point in time (*ibid*). Communication is a social dimension that overtime, may undergo changing dynamics such as changes in interactional power dynamics (Simmons-Mackie & Damico, 2007). When changes to a person’s communication ability itself is the cause of the change in circumstances (as is the case with acquired communication disabilities such as aphasia), families often report significant challenges (Michallet et al., 2003). In instances where the modality of communication becomes inaccessible or challenging for one partner, changes such as unequal speaking opportunities, power imbalance in conversation (Simmons-Mackie & Damico, 2007) and frequent communication breakdown results (Croteau et al., 2020; Leaman & Edmonds, 2020), with implications for how the relationship is managed and maintained (Fotiadou et al., 2014; McCarthy et al., 2020).

### **2.1.1 Aphasia—The dynamics of communication and interaction**

For pWA, an enriching environment that offers and supports multiple modes of participation (Hengst et al., 2019), creates opportunities for engagement in meaningful interaction with those around them. Rich environments optimise the experience of communication, support maintenance of relationships and common ground (*ibid*), increase the pleasantness of the communication interaction (Croteau et al., 2018) and thereby create potential for positive interactions in future (Hengst et al., 2019). On the contrary, barriers to participation and interaction encountered by the PWA may impact on the PWA’s desire to engage and participate further and significantly influences the nature of activities they choose to engage in (Haley et al., 2019). Simmons-Mackie and Damico (2007) applying principles of interaction to aphasiology suggest that the way people react to one other is based on their experiences and social constructions of interaction. For example, when CPs view pWA as ‘impaired’, this perception can manifest in CPs behaviour during interaction and result in pWA not wanting to participate. For example, the roles of ‘expert clinician’ and ‘impaired patient’ can prevent pWA from participating in making choices about therapy goals, activities, and tasks (*ibid*). A similar phenomenon can occur in everyday communication interaction involving typical communicators where prior communicative experience influences the nature of future communicative interactions (Dragojevic et al., 2016). The processes that underlie this phenomenon are therefore not unique to aphasia and can be explained by communication accommodation theory (see Chapter 4, section 4.1.2).

Contrary to the dynamic, collaborative and co-constructed nature of typical interaction (Kagan et al., 2001; Simmons-Mackie & Damico, 2007), in conversations involving pWA, the PWA is seen linguistically as the less dominant and passive conversation partner (Simmons-Mackie & Damico, 2007). The dominant non-aphasic communication partner allows themselves to lead and control the conversational interaction resulting in inequalities during interaction. Simmons-Mackie and Damico (2007) describe three social dimensions that influence the access to and social participation for pWA. (a) "*Interactional Power and Asymmetry*" (*ibid*, p. 87); (b) "*Marginality and enculturation of communicative values*" (*ibid*, p. 89); (c) "*Face Saving*" (*ibid*, p. 91). The occurrence of communication breakdown in conversations with pWA prompts the interactive partners to disproportionately take charge of the conversation and in doing so control aspects of the communication rights of the PWA. This is often the case when communication partners, overlooking the communicative autonomy of the PWA, assume interpretations of information conveyed by the PWA, answer on behalf of the PWA, control turns, employ closed questions to control the contribution of the PWA select topics for communication, and control topic change (Simmons-Mackie et al., 2004; Simmons-Mackie & Damico, 2007). Such disproportionately controlled interactions are observed in interactions of pWA with a range of communication partners including family members, health professionals, friends, and acquaintances. A perception of the PWA being 'incompetent' often results in the PWA being side-lined or marginalised during communicational interaction. This attitude manifests as a significant barrier to social participation for pWA. Untrained communication partners are often observed to invade and interrupt the turns of the PWA, and respond for them; undermine their communicative competence (Kagan, 1998; Kagan et al., 2001). CPs tend to initiate and engage in the use of pedagogic activities as a way of managing and adapting to the interaction (Saldert et al., 2015; Turner & Whitworth, 2006). Viewing the PWA as the less-dominant CP, the associated inequalities in conversational interaction and changes to the power-dynamics between communication partners may impact access to communicative opportunities for the PWA in the interaction (Simmons-Mackie & Damico, 2007). The described non-facilitative communicative behaviours of communication partners in turn frame the PWA as "helpless" (Simmons-Mackie et al., 2004, p. 116) which can impact on the identity of the PWA and push them "to the margins of a social group" (Simmons-Mackie & Damico, 2007, p. 90). In doing so the typically communicating partners deny the PWA of the opportunity to share their ideas, opinions and participate in decision making (Simmons-Mackie & Damico, 2007). Taking away the PWA's autonomy by causing them to relinquish their role as an informant can have significant negative psychosocial consequences.

The psychosocial consequences for pWA resulting from the impact of the communication environment may manifest in the form of reduced motivation, participation, and treatment outcomes (Haley et al., 2019) and may in turn impact on the mood and quality of life. In addition, the societal and interactive partners' negative perceptions about pWA often result in feelings of embarrassment and feelings of helplessness associated with the reduced success of being able to participate to their full and desired potential. Such negative feelings in turn diminish the motivation to participate in social interaction. The reduced ability of a PWA to use the privileged linguistic mode of communication to express one's wants, needs, desires, feelings, thoughts, emotions, can further lead to feelings of



loneliness, isolation, fatigue, frustration, anger, sadness, grief and is a deterrent to the well-being of both the pWA and those around them (Barrow, 2008; Grawburg et al., 2014; T. Howe et al., 2012; Mc Menamin et al., 2015; Reddy & Vranda, 2012; Sorin-Peters, 2003, 2004). Reports from pWA indicate that feelings of frustration, fatigue, sense of imprisonment further impact on the PWA's motivation and energy to participate in communication interaction (Mc Menamin et al., 2015).

## **2.2 Impact of aphasia: Moving beyond communication**

The impact of aphasia extends to both the person's communication and social functioning as well as the quality of life of pWA, their family members and their caregivers (Papathanasiou & Coppens, 2013). In addition, aphasia can also impact the access to information and other services (Worrall et al., 2011), "equal rights, and wellbeing in family, community and culture" (Berg et al., 2020, p. 1).

### **2.2.1 Impact of aphasia on participation for the PWA**

People with aphasia face a significant reduction in participation in social interaction (Hilari & Northcott, 2006; Simmons-Mackie & Damico, 2007), social activities, reduced social networks, reduced friendships, and a opportunities to participate in conversational interaction (Cruice et al., 2006; Vickers, 2010). Social networks form the link between an individual and the society (Hilari & Northcott, 2006) and are therefore crucial for promoting life participation and well-being in adults (Vickers, 2010). A significant reduction in the social contacts and dissatisfaction with the level of participation in social activities has been reported for older adults with aphasia (Cruice et al., 2006). The literature addressing social support and participation for pWA suggests that, while contact with immediate family members may increase following the onset of aphasia, there is a significant reduction in the support from friendship networks (Hilari & Northcott, 2006; Mc Menamin et al., 2015). In addition, reactions of people to the person's aphasia further impacts their social relationships (Fotiadou et al., 2014). The quality of interactions with family and particularly the significant others of pWA thus becomes increasingly important (alongside other interventions to increase social networks).

The challenges faced by significant others in finding natural ways to engage their aphasic partners and the perception that communication with pWA often seems to be a "task" (Sorin-Peters, 2004, p. 970) further suggests the reduced participation of pWA within the home environment. Environmental factors are "those factors in the physical, social, and attitudinal environment in which people live and conduct their lives" (WHO, 2002, p.10). The barriers to participation present in the environment surrounding the PWA may impact other aspects of life including the ability to access and engage in healthcare (Worrall et al., 2011), to return to work (e.g., Parr, 2001), or participate in the wider community (e.g. Fotiadou et al., 2014).

### **2.2.2 Impact of aphasia on Quality of Life (QOL) for the PWA**

Quality of life is a vague, subjective, multidimensional concept that incorporates a broad range of aspects of an individual's life (Bowling, 2001). The WHO defines Quality of Life as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (WHOQOL Group, 1995, p. 1405). QOL or the 'goodness of life' (Bowling, 2001,

p. 1) is “affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment” (WHOQOL Group, 1995, p. 1405). QOL is increased in “culturally typical environments” (R. I. Brown et al., 2009, p. 2) where family and community support (Otrebski, 2000) are guaranteed. Health related QOL may be defined in terms of the level of functioning as “optimum levels of mental, physical, role and social functioning, including relationships, and perceptions of health, fitness, life satisfaction and well-being” (Bowling, 2001, p. 6).

Hilari and colleagues (2012) carried out a systematic review of the available literature to identify the ‘important factors of Health-Related Quality of Life for people with aphasia’. A descriptive synthesis of the results revealed the following themes emerging as predictors of Health-Related Quality of Life: Emotional distress/depression, extent of aphasic impairment and communication disability, presence of other medical problems, activity level, looking to the future/having a positive outlook, verbal communication, body functioning, and people and social support. The aforementioned psychosocial predictors identified through research thus have various clinical implications (Hilari et al., 2015).

The language, communication and psychosocial consequences of aphasia can have a profound impact on QOL (Franzen-Dahlin et al., 2008; Hilari et al., 2015; Lee et al., 2015; Sorin-Peters, 2003; Worrall et al., 2016). The impact on quality of life results from a combination of internal and external factors and are further complicated by the interaction of aspects of individuality and culture (Sorin-Peters, 2003), including influences of the type of aphasia, the severity, chronicity, communication environment, support services, and opportunities for social engagement. Individual linguistic and external environmental factors impact the access to communication for the PWA.

The lack of adequate information and counselling may add to the difficulty in legitimizing and negotiating the communication consequences among other life changes following stroke and aphasia and may indirectly affect the quality of life of the PWA (Parr, 2001; Sorin-Peters, 2003). The reduced independence and access to communication and the environment, impacts the decision-making roles of the PWA and the family members (Christensen & Anderson, 1989; Franzen-Dahlin et al., 2008). The reduced communicative access in turn affects the person’s social life, marital life and the relationship with friends, family members and colleagues (Hallé & Le Dorze, 2014; Hilari et al., 2010; Lee et al., 2015; Sorin-Peters, 2003). The existence of social companionship has been associated with better QOL (Hilari & Northcott, 2006). The reduction in social networks can impact on health-related quality of life associated with stroke and aphasia.

The impacts of aphasia are neither discrete nor separable (Sorin-Peters, 2003), and are dynamic (Parr, 2001), changing over time. In other words, the communication consequences directly impact the level of conversational interaction between the PWA and the friends and family members affecting social interaction and often participation in life. This further results in the feeling of loneliness, isolation (Hilari et al., 2010) grief, anger (Sorin-Peters, 2003) and depression (Morrison, 2016). In addition, mood disorders and fatigue associated with stroke and aphasia, can play a role in poor QOL after stroke (Bullier et al., 2020). The communication disability associated with aphasia restricts the remedial

options available for people with depression associated with aphasia (*ibid*) and risks long-term psychosocial consequences and reduced quality of life. Changes to roles within the family can impact the family dynamic. Participants can have significant marital issues associated with the aphasia, such as reduced emotional intimacy, reduced expression of feelings and emotions to each other (Sorin-Peters, 2004), changed roles and dynamic during communication and reduced interaction (Croteau et al., 2020). In addition, owing to the challenges in communication working through these marital issues are also significant (Sorin-Peters, 2004) with some couples reporting increased frustration and caution towards each other (Croteau et al., 2020). The presence of these emotional and psychosocial consequences can in turn impact the individual's response to rehabilitation (Sorin-Peters, 2004) and result in the need for enrolment in therapy for longer duration, increase in drop-out rates and a depletion of financial resources owing to the increased medical and therapeutic treatment needs. It has hence been suggested that quality of life or life satisfaction be considered as important aims during treatment planning for pWA (Hilari et al., 2015).

### **2.2.3 Impact of aphasia on caregivers – Third party disability, social participation, and quality of life**

The impact of aphasia extends to the spouses, children and caregivers of pWA (Blom Johansson et al., 2013; Draper & Brocklehurst, 2007; Franzen-Dahlin et al., 2008; Grawburg et al., 2013, 2014; K. R. Howe, 2012; Michallet et al., 2003; Sorin-Peters, 2004). Research suggests that “although conversation involves only a dyad, the effects of aphasia involve the whole family system” (Sorin-Peters, 2003, p. 407). Impact of aphasia on the family members is often disabling and may be classified as a ‘third party disability’ (Howe et al., 2012, Grawburg et al., 2013), a term coined by the WHO (2001) which in this context would refer to the impairment in functioning acquired by a family member owing to the “environmental factor of having a relative with aphasia” (Grawburg et al., 2013, p.1325).

Research indicates that a range of impacts may occur as result of caring for a family member with aphasia—feelings of stress (Michallet et al., 2003) and strain (Draper & Brocklehurst, 2007) owing to the communication impairment among other lifestyle changes including changes in “interpersonal relationships, responsibilities, leisure activities and finances” (Michallet et al., 2003, p. 840). A systematic review of third-party disability in family members of pWA also suggested that many aspects of functioning of the family members of pWA were negatively affected, including changes to their mental, emotional and sleep functions, personality changes, depression and minor psychiatric disorders, changes in their ability to handle stress, changes in their maintenance of self-care increasing their vulnerability to other health conditions, changes in their household responsibilities and the undertaking of tasks involving communication, changes to their interpersonal relationships with friends and family as well as their marital and sexual relationships for spouses of pWA, changes in their employment, educational and recreational activities, poor social functioning and social withdrawal (Grawburg et al., 2013). Some of these were associated with the reduced availability of time to care for themselves. Much of this impact related to the challenges in communication interaction between the family members of the pWA themselves and the pWA. The spouses and family members are often unprepared for the lifestyle changes and the role changes (Franzén-Dahlin et al., 2008; Howe et al., 2012) that follow post the onset of aphasia and often

encounter feelings of inadequacy when caring for the PWA (Draper & Brocklehurst, 2007). Often the family members' perception of the extent of disability or needs of the PWA determined the level of stress felt (Franzen-Dahlin et al., 2008). The effect on the life situation was also found to be more significant for those family members who lived with pWA than for those that did not (*ibid*).

The impact of caregiving on the life situation appeared to be higher among females rather than that among males who are the carers for their significant others (Franzen-Dahlin et al., 2008). Caregiving duties are time consuming and take a toll on the sense of freedom of the significant other who in addition have other unrelated health problems (*ibid*) and family caregivers tend to prioritise the needs of their family member with aphasia over those of their own (Hallé & Le Dorze, 2014). Reduced opportunities to communicate with each other appear to play an important role in terms of the potential negative impact on the relationship (*ibid*). This could result in increased depressive symptoms for the caregivers, symptoms that may be ignored. The authors suggest that communication limitations may influence the understanding of rehabilitation and the conversations surrounding rehabilitation for both the pWA and their significant others (Hallé & Le Dorze, 2014, p. 1781). In addition, the significant others of people with stroke and aphasia may experience some level of participation restrictions that differ based on the activity (Cox et al., 2020). Researchers have identified some of the expressed needs of the of the significant others of pWA, including the need to be given information; to be given support; to look after their own mental, emotional and physical well-being and to be able to cope with new responsibilities (Hallé & Le Dorze, 2014; K. R. Howe, 2012)

Family members of pWA undergo changes to their roles, their schedules, their social lives and their personal lives. The sudden changes and undertaking of new roles can impact the relationship dynamic between the PWA and the family members who care for the PWA. In addition, the collective reduction in social networks and social participation increases the pressure on the family unit to attend to the psychosocial needs of the pWA and may contribute to the increased strain reported within the family units post stroke (Northcott et al., 2015). It has thus been suggested that aphasia rehabilitation must extend to the family members and caregivers (Franzen-Dahlin et al., 2008; Grawburg et al., 2013; T. Howe et al., 2012). The literature highlights the need to design more family-oriented interventions for pWA and their families (Blom Johansson et al., 2013) that also consider the restrictions to participation and the family members satisfaction during participation (Cox et al., 2020). It could be argued that by addressing the challenges faced in communicative interaction, by training the family members in the use of appropriate conversation partner strategies, much of this impact could be alleviated.

### **2.3 Sense of Coherence and aphasia**

Positive health and health promotion are increasingly popular concepts linked with the WHO's definition of health, that is, promoting mental and physical well-being, the ability to cope and health related quality of life and not merely the absence of disease and infirmity (Antonovsky, 1996). According to Antonovsky (1996), engaging in health-promotive activities and developing health-promotive lifestyles would result in an increase in human happiness and a decrease in human suffering – a concept which led to the development of the 'salutogenic model'. The salutogenic model views the health of an

individual along a 'healthy/dis-ease' continuum (Antonovsky, 1996). This model provided the basis for the development of the concepts of Sense of Coherence' (SOC) and 'Generalized Resistance Resources'. Sense of Coherence (SOC) has three subcomponents—comprehensibility, manageability and meaningfulness which are intertwined with one another (Antonovsky, 1996). A person with a strong sense of coherence will be able to be motivated to cope, understand the challenges of the given stressor or health situation and identify the available resources that will foster better coping and management of the given situation (*ibid*). Research in the field of aphasia has found that participation in meaningful activities, mobilization of assets and self-identified resources (e.g., meaningful relationships, peer-support), contributes to promoting health by improving understanding (comprehensibility), helping manage and cope (manageability) and developing meaning (meaningfulness) (Shiggins et al., 2020). Generalized Resistance Resources referred to “a property of a person, a collective or a situation which, as evidence or logic has indicated, facilitated successful coping with the inherent stressors of human existence” (Antonovsky, 1996, p. 15), such as monetary resources, social support, religion, knowledge, intelligence and coping strategies (Idan et al., 2016).

For pWA and their family members, the onset of a stroke is perceived as a stressor (Forsberg-Wärleby et al., 2002) and when accompanied by aphasia, the intensity of the stressor is imaginably heightened. Life-satisfaction, satisfaction with relationships, socio-economic status have been identified as being associated with the sense of coherence of spouses of people who have had a stroke (Forsberg-Wärleby et al., 2002). The socio-cultural context further influences the impact of the aphasia on the health-related quality of life of the pWA and their families (Sorin-Peters, 2003). It could be suggested that, for pWA, it is important that both the individuals themselves and their family members have a strong sense of coherence to be able to cope up with the stressors and adapt well to ensure a better quality of life both individually and collectively for the family. Important components may be the capacity to learn how to manage it on their own or by availing assistance from those around them, and finally make meaning of these processes. Antonovsky and Sourani (1988) suggest that a strong sense of coherence will enhance the ability to cope with stressors, that enable a high level of adaptation for the family unit which in turn create positive experiences that reinforce their sense of coherence.

#### **2.4 Approaches to rehabilitation**

Traditionally, aphasia rehabilitation focused on “static, non-interactive techniques intended to repair the language deficits manifest in aphasia” (Sarno, 2004, p. 26) and designing specific management plans focused on reducing the identified linguistic impairments (Kagan, 1999; Karanth, 1988, 1989; Sasanuma, 1989; Xinde, 1989). Over the last two decades, research has indicated the need to re-evaluate the current scope of practice in speech-language therapy to expand from the traditional therapeutic role to adopting a public health role to meet the needs of people with communication disabilities (Kagan, 1999; McAllister et al., 2013; Simmons-Mackie, 1998) and their family members with third party disability (Grawburg et al., 2013). A shift in the model of intervention has been seen, with increased attention on modifying and enriching the communicative environment to optimise the communication between pWA and those around them (Simmons-Mackie, 2013). The value of using a range of 'communication strategies' in conversational interaction is being increasingly highlighted in relation to supporting

successful conversations (e.g., Holland, 2020). In addition, the importance of the SLT working with family members (Croteau et al., 2018; Eriksson et al., 2016; Saldert et al., 2013, 2015; Sorin-Peters, 2002, 2003, 2004; Terradillos & López-Higes, 2018) carers, health professionals (e.g., Cameron et al., 2017; Horton et al., 2016; Legg et al., 2005) and community volunteers (e.g., Hickey et al., 2004; Kagan et al., 2001; McVicker et al., 2009) is being increasingly explored.

## **2.5 The social model of disability as applied to aphasiology**

In Byng and Duchan's application of the social model to aphasia, they describe it as a "philosophical framework for provision of therapy" (2005, p. 907) that has also influenced the World Health Organisation's classification of Functioning, Disability and Health (ICF) (WHO, 2002). The ICF is based on the 'biopsychosocial model' (WHO, 2002), which is built on the true aspects of the medical and social models of disability (WHO, 2002, 2013). The social model of rehabilitation is not an alternative approach to rehabilitation but one that can be implemented by SLTs and healthcare workers in interaction with current therapeutic approaches to rehabilitation (Byng and Duchan, 2005). It emphasizes the importance of authentic engagement of the service users in the development, maintenance and evaluation of rehabilitation programs to ensure that intervention programs facilitate reintegration and meet the needs of the service users (Byng & Duchan, 2005; Kumar et al., 2012).

The ICF focuses on the concept of health and functioning rather than on 'disability' (WHO, 2002). The International Classification of Functioning and Disability describes any disturbance in relation to health conditions at the physical, personal and societal levels (*ibid*) and thereby provides a clear overall picture of an individual's health condition (WHO, 2013). This information can assist in decision making, research, clinical practice, educational program development and social policy making (World Health Organization, 1999). Being the common language of health professionals all over the world (*ibid*), SLTs have come to use this as the basis for their work, which has led to a shift in the focus of rehabilitation. In a study exploring the goals of PWA, it was found that the majority of the goals identified related to everyday activities and participation in the community and to environmental factors when analysed across the spectrum of ICF codes (Worrall et al., 2011). Similar findings were reported in a study by Wallace and colleagues (2017), where they explored the outcomes that were identified as most important by pWA and their family members. Most outcomes identified by the pWA were categorised as related to activity / participation (39%) with 36% of the desired outcomes associated with body functions and 22% associated with environmental factors (*ibid*). These findings support the importance of interventions which address participation and environmental considerations.

Byng and Duchan (2005) describing some of the ramifications for practice of the social model state that "[there] are significant disabling impacts of an impairment that are caused by the attitudes, and practices of other people and by the environment, rather than by the impairment itself" (p. 907). For individuals with aphasia, this statement would imply that if certain modifications are made to the environment and people adapt to support the individual with aphasia, the communicative disabilities associated with aphasia could be significantly reduced. Practice has demonstrated that the implementation of the social

model alongside linguistic impairment-based therapy results in better progress and must thus be considered of equal importance (Foster et al., 2016; WHO, 2002) in the rehabilitation and reintegration of pWA. While there is increasing evidence that favours the social approach and communication partner training there still remains a lack of evidence for people with acute aphasia (Simmons-Mackie et al., 2016). This finding implies that while this shift has been seen in some settings, there are settings in which intervention remains constrained to impairment-focused rehabilitation, risking failure with regards to effectively reintegrating pWA into their families and the society. There does, however, appear to be a general paucity of SLT services that are well implemented for pWA particularly in the acute care setting in minority world contexts (Foster et al., 2016; Sherratt et al., 2011).

## **2.6 Communication Partner approaches**

Communication partner approaches involve engaging typical communicators in the environment, both familiar and unfamiliar as communication partners to utilise communication resources and strategies to enhance the communication access for pWA (Byng & Duchan, 2005; Simmons-Mackie et al., 2010, 2016). Communication partner approaches focus on communicative competence (of both communicators), co-construction and participation (McVicker et al., 2009). The approaches focus on making changes to the communicative environment (Simmons-Mackie et al., 2010) in order to facilitate better communication interactions for the pWA and those around them. The contexts, format and methods by which communication partner approaches are implemented and the relationship of the trained conversation partners to pWA vary (Simmons-Mackie et al., 2010, 2016; Terradillos & López-Higes, 2018; Wiseman-Hakes et al., 2020), however with shared underlying principles and philosophies. Some approaches to communication partner training include conversational coaching (e.g., Hopper et al., 2002), social and life participation effectiveness (LPAA Project Group, 2000), and Supported Communication Intervention (SCI) (e.g., McVicker et al., 2009; Sorin-Peters & Patterson, 2014). In conversational coaching (Hopper et al., 2002), the SLT takes on the responsibility of coaching pWA and their primary communication partners within a conversational context, with the goal to improve communication between them. Social and life participation effectiveness focuses on enhancing the life participation and the re-engagement of pWA and those affected by it. It places the real-life goals of pWA at its core (LPAA Project Group, 2000). Supported Communication Intervention (SCI) employs a more holistic approach to enhance participation in conversation and participation in life. The key elements of this approach include incorporating augmentative and alternative communication (AAC), training communication partners, and promoting social communication (e.g., Kagan et al., 2001; McVicker et al., 2009; e.g., Togher et al., 2013; Turner & Whitworth, 2006). Partner approaches involve minimal risk (Wiseman-Hakes et al., 2020), and the involvement of everyday communication partners in particular can promote a sense of community. The involvement of the wider community specifically for the benefit of pWA and thus the community in which they live, has been perceived by pWA themselves to provide a sense of identity in relation to awareness of and information about aphasia (Rotherham et al., 2015). The focus of this study was on communication partner training in the philosophy of SCI, and hence the discussion which follows addresses this approach.

Training communication partners to engage with pWA enhances inclusion and facilitates improved participation for the pWA (McVicker et al., 2009). These approaches focus “on conversation because it is a vehicle for social participation” (Kagan et al., 2001, p. 625). The specific focus on communication partners builds from the “collaborative and constructive” nature of conversation (Kagan et al., 2001, p. 625). It must be cautioned however, that this focus on ‘conversation’ and ‘CPs’ is sometimes lost owing to different interpretations of the terms ‘CP-training’ (Kong et al., 2021) and ‘communication strategies’ (Holland, 2020). There is therefore the risk that the terminology used might implicitly reinforce the idea that the CP is being trained to provide language training for the pWA which warrants consideration. True Communication Partner Training (CPT) however, is built on the foundation of the social model of disability which emphasizes the contribution of environmental factors in exacerbating a disabling condition (Byng and Duchan, 2005). There exists a significant body of research on training people as CPs in the use of appropriate strategies to facilitate interaction and build communication ramps to increase the participation in conversation and life for pWA and brain injury (Blom Johansson et al., 2013; Kagan et al., 2001; McVicker et al., 2009; Simmons-Mackie et al., 2010, 2016; Sorin-Peters, 2004; Togher, 2013; Togher et al., 2004, 2013; Turner & Whitworth, 2006). In conversation partner approaches, the role of the speech and language therapist shifts from merely a “fixer” of language impairment to the use of expertise to enable “mutually satisfying conversation” for pWA (Sorin-Peters, 2003, pp. 406, 407) and social interactions thereby reducing the negative psychosocial consequences (Turner & Whitworth, 2006) of the aphasia and promoting mental well-being and quality of life.

Studies done to investigate the efficacy of CPT approaches have demonstrated statistically significant indications of improvement both in the skills of the conversation partners trained, and in the participation of pWA (Simmons-Mackie et al., 2010, 2016). CPT has consistently been recommended under best practice guidelines as a mandate to improve the communication of pWA (Power et al., 2015; Simmons-Mackie et al., 2017). It appears within the recommendations of the Aphasia Resource (RCSLT, 2009); National Stroke Foundation Australia (2010 strokefoundation.com.au), Canadian Best Practice Recommendations for Stroke (Hebert et al., 2016) and more recently in an Indian Expert group report (see Pauranik et al., 2019). CPT approaches have been extensively explored, documented, and implemented in the context of English-speaking countries in the minority world – specifically Western, Educated (and English speaking), Industrialised, Rich and Democratic (WEIRD<sup>3</sup>) countries (Jagoe et al., 2018). Research in non-English speaking countries is emerging (Terradillos & López-Higes, 2018; Wielaert et al., 2018).

Although limited attention has been paid to CPT in languages other than English (e.g. Kong, Chan & Jagoe, 2021), research on CPT in the majority world has been extremely limited. In majority world contexts, the barriers to healthcare access such as reduced access to services, reduced mobility, high cost involved particularly for people with disabilities (Barik & Thorat, 2015), such as for pWA (Karanth, 2012), healthcare researchers and providers must bank on maximising the potential of the resources that are available within the context. There is evidence to suggest that training family members as communication partners has a significant impact on the communication and well-being of both pWA and

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3 Acronym coined by , Henrich, Heine, & Norenzayan, (2010)



their family members (Simmons-Mackie et al., 2016; Sorin-Peters, 2004; Terradillos & López-Higes, 2018). These findings from the literature suggest the potential for exploration of CPT for family members of pWA within majority world contexts.

### **2.6.1 Types of communication partner training**

Communication partner training approaches may be delivered in several configurations: as tailored training provided to an individual communication partner (Terradillos & López-Higes, 2018); to the dyad as whole using a conversational approach (Beeke et al., 2014; Croteau et al., 2018); or group interventions which may be manualised (e.g., Cameron et al., 2017; Horton et al., 2016; Legg et al., 2005); or interaction-focussed (e.g., Saldert et al., 2015). The configuration chosen across settings and studies depends on the needs and preference of the stakeholders, the purpose of the intervention and the resources available. CPT approaches also vary in terms of the individuals trained as communication partners and include—volunteers (e.g., Hickey et al., 2004; Kagan et al., 2001; McVicker et al., 2009) and speech and language therapy students (e.g., Jagoe & Roseingrave, 2011; Mc Menamin et al., 2015; Scully & Kearns, 2015); significant others (Croteau et al., 2018; Eriksson et al., 2016; Saldert et al., 2013, 2015; Sorin-Peters, 2002, 2003, 2004; Terradillos & López-Higes, 2018) and other every day communication partners such as healthcare professionals. There is also variation in the duration of training and the number of sessions provided (Eriksson et al., 2016). Kagan's 'Supported Communication for Aphasia' (1998) remains the gold standard for communication partner training (Holland, 2020), although a number of programmes draw on similar principles. Three prominent manualised approaches are detailed below and a comparative overview of the training is provided in table 2.1.: Supported Conversation for Adults with Aphasia (SCA) (Kagan, 1998; Kagan et al., 2001), Learner-centred Communication Training Program for Spouses of Adults with Aphasia (Lct- SAA<sup>®</sup>) (Sorin-Peters, 2004) and Conversation Partner Scheme (CPS) (McVicker et al., 2009).

#### **Supported Conversation for Adults with Aphasia (SCA)**

Supported Conversation for Adults with Aphasia (SCA<sup>™</sup>) (Kagan, 1998; Kagan et al., 2001) is an intervention designed to address the psychosocial consequences of aphasia. The approach is based on the concept of 'conversational partnerships' (Kagan, 1998) wherein the success and the integrity of the conversation is based on the contribution, skill and experience of both the conversation partner and the partner with aphasia (Kagan, 1998; Kagan et al., 2001). The authors of SCA<sup>™</sup> believe that the training of conversation partners and the availability of appropriate conversational resources are equally important as direct therapy to improve the skills of the PWA (Kagan, 1998). SCA is an approach that focuses on the PWA's sense of autonomy rather than on improving the cognitive-linguistic impairments to facilitate communicative independence and thus emphasises the overall interdependent achievements of the dyad (*ibid*). The approach recognizes that the competence of a PWA is typically masked by the language impairment, and that when conversation partners implement the use of appropriate techniques, pWA can engage successfully (e.g., Kagan et al., 2001). SCA "involves teaching techniques to conversation partners to help them reveal the competence of the people with aphasia" (*ibid*, p. 625). The trained partners are considered as 'communication ramps' or resources for the pWA and thus create opportunities for conversation and social interaction (Kagan, 1998). A study done to test the effectiveness of the SCA training revealed a statistically significant

beneficial impact on both the pWA and the volunteers (Kagan et al., 2001). This provides experimental support for the efficacy of this approach and provides impetus for the study of similar approaches. The SCA™ training at the Aphasia Institute is provided to personnel beyond those recruited as volunteer conversation partners. Specific training modules are also designed to cater to students and health care professionals working to support pWA and their families (<http://www.aphasia.ca>). Prior to delivering this intervention, clinicians must be trained in the approach. However, this training typically occurs in Toronto and has a cost of \$888 CAD for the basic training course. Each additional course then has an additional fee. For example, the 'Train the Trainers' course which costs \$613 CAD. In addition, visiting and international trainees often have to incur flight and accommodation costs. In the current context however, more attention has been paid to telerehabilitation and rehabilitation online. While the online training helps to reduce the cost to some extent in terms of expenditure on flights, accommodation, and meals that international trainees would otherwise have to incur, the course fees remain expensive for SLTs from majority world countries who desire to be trained.

### **Learner-centred Communication Training Program for Spouses of Adults with Aphasia (Lct-SAA®)**

The Lct-SAA® program was developed to address the psychosocial consequences of aphasia and “improve the quality of communication between spouses and their aphasic partners” (Sorin-Peters, 2004, p. 954). This program was built based on integrating adult learning principles with speech language therapy principles (Sorin-Peters, 2003, 2004) as well as incorporating insight gained from a needs assessment conducted by the authors. The “communication skill training component” of the program itself is based on an application of the SCA (Kagan, 1999) to spouses (Sorin-Peters, 2002, p. 28). This component is therefore similar to the 'Two to Tango' program which is more broadly designed for family members. The program incorporates “education, communication skill training, and counselling” (Sorin-Peters, 2003, p. 409) components (see table 3.1) and the delivery of sessions are based on the 'Kolb learning cycle model' (Kolb, 1984; Sorin-Peters, 2004). The four dimensions of this cycle include Concrete Experience, Reflective Observation, Abstract Conceptualization and Active Experimentation (Kolb, 1984; Sorin-Peters, 2004). This program acknowledges the competency and the expertise of the spouse as an adult learner and involves both the spouse and the aphasic partner in the selection of goals and program development. The program placed the learner in the central role and thus resulted in the selection of goals that included communication, emotional and marital issues to minimize barriers to effective learning and thus promote “a global feeling of overall well-being” (Sorin-Peters, 2003, p. 414). Such approaches imply that improvement in communication between pWA and their family members, can bring about improved social participation and well-being (Sorin-Peters, 2003). The authors stipulate that in addition to the client specific outcomes, the speech language therapists adopting this approach will be involved in their own experiential learning. The speech language therapists and the client are thus “active collaborators in the learning process” (*ibid*, p. 415). The Lct-SAA® program has proved to be a cost-effective approach to fostering positive changes in pWA and their spouses, including changes in communication, quality of life, self-esteem and marital relations thus promoting overall well-being of pWA and their spouses (Sorin-Peters, 2003, 2004).

**Table 2.1 Comparative overview of CPS, SCA™ and Lct- SAA®**

| CPT Intervention           | CPS  | SCA™   | Lct- SAA®   |
|----------------------------|--|--|---|
| Communication Partners     | Volunteers   | Volunteers / healthcare workers  | Spouses   |
| Duration / Dose            | 6 hrs  | 1 day  | 9 sessions (1-1.5hrs each)  |
| Mode of Delivery/ Approach | Training Workshop  | Training Workshop  | Learner-centred training program  |
| Training Components        | Disability Equality  | Conceptual/motivational module   | Education   |
|                            | Communication Skills Training  | Technical Module (SC Techniques)   | Learning Styles   |
|                            | Communication Skills Training (Practical Session)  | Integrative Role Play  | Communication Skills Training   |
|                            | Health and Safety  | Evaluation   | Counselling   |
| Goal                       | Improve communicative confidence   | Improve conversations  | Improve quality of communication  |
| Requirements               | Clinician delivering training must have skill and expertise in the training and delivery of CPT. No mandatory institutional training required.   | Clinician delivering training must have completed training by the Aphasia Institute.   | Clinician delivering training must have skill and expertise in the training and delivery of the program.  |
| Resource implications      | Not very resource intensive in terms of delivery time. Low-cost; no cost implications for further use. Permission to adapt is easily obtainable. Potentially more feasible in resource constrained contexts. | Not very resource intensive in terms of delivery time. High cost involved. Further adaptation requires completion of training. Potentially less feasible in resource constrained contexts. | Resource intensive in terms of expertise of personnel, time. Cost-effective in terms of outcomes. Potentially less feasible in challenging resource constrained contexts. |

(Kagan, 1998; Kagan et al., 2001; McVicker, 2007; McVicker et al., 2009; Sorin-Peters, 2002)

### Conversation Partner Scheme (CPS)

The Conversation Partner Scheme (CPS) (McVicker et al., 2009), was a designed to deliver a home-based Conversation Partner Scheme to individuals with chronic aphasia and those who had difficulties accessing rehabilitation services. The scheme was operated by Connect (The Communication Disability Network), now called 'Aphasia Reconnect' (<https://aphasiareconnect.org/>), an organization that works to provide long-term services for people with stroke and aphasia. Volunteers trained in the use of conversation partner techniques are required to visit the pWA enrolled, in their own homes and engage in conversational interactions with them. The rationale for involving volunteers and training them in the use of conversation partner strategies is that communicative engagement with trained and understanding communication partners, might enhance the communicative confidence of the pWA and encourage them to attempt new activities. People with aphasia who have previously been trained and supported are involved in the volunteer training as

'trainers' who provide the volunteers with feedback on their usage of the trained techniques. Evaluation of the conversation partner scheme (McVicker et al., 2009), revealed that the scheme demonstrated overall success, received appreciation, and proved beneficial to the volunteers, the pWA and the referring speech language therapists. The scheme provides conversation opportunities to pWA in their own homes while also providing the volunteers with opportunities to gain insight into the communication difficulties faced by pWA as well as into communication in general. The scheme thus offers a good functional example of "a long-term, low-cost service" (p. 67) for pWA who may not otherwise be considered a priority for communication therapy. Adaptations of this scheme have been successfully implemented (Simmons-Mackie et al., 2016) in various settings including in educational institutions training SLT students as volunteers (e.g., Jagoe & Roseingrave, 2011; Scully & Kearns, 2015). The adaptations are possible with permission from the author, with no cost implications for further use. There is also no requirement to undergo mandatory training to adapt and implement the scheme. This low-cost, low-resource nature of the CPS scheme supports the feasibility for its implementation and makes it more desirable for adaptation in challenging and resource constrained contexts.

All of these programs involve, a technical or communication skills session(s) to facilitate learning about supportive strategies to 'get the message in' and 'get the message out' and strategies to acknowledge and reveal the competence of the PWA (Kagan, 1998; Kagan et al., 2001; McVicker, 2007; McVicker et al., 2009; Sorin-Peters, 2002). The participants are then provided the opportunity to practice these strategies through role play and practical sessions that facilitate exposure and experience of using the taught techniques.

### **2.6.2 Evidence for CPT: Opportunity for conversation & interaction**

A systematic review of CPT approaches (Simmons-Mackie et al., 2010, 2016) demonstrated that positive outcomes from CPT have been observed across studies involving various categories of communication partners and for pWA of varying severity. Stronger evidence in support of CPT is available for people with chronic rather than acute aphasia (Simmons-Mackie et al., 2010, 2016). CPT has demonstrated a long-term impact on enhancing successful and meaningful functional communication (Mc Menamin et al., 2015; Simmons-Mackie et al., 2010). In doing so, it also helps to reduce social exclusion (Mc Menamin et al., 2015), the negative feelings of isolation and marginalisation associated with the aphasia (Simmons-Mackie & Damico, 2007). This reduction in social isolation is a benefit of significant importance as demonstrated by the life-activity choices of pWA (Haley et al., 2019).

The evidence base surrounding CPT suggests that trained communication partners have improved skill in acknowledging and revealing the competence of the PWA (Kagan et al., 2001; Sorin-Peters, 2004). Trained communication partners demonstrate their skill in acknowledging competence of a PWA by communicating directly with the PWA and responding to the information provided by the pWA themselves as opposed to talking on their behalf of or attempting to guess their responses. In doing so, CPT can have positive consequences for enhancing motivation, participation and overall treatment outcomes which may otherwise be negatively impacted (Haley et al., 2019) as described in section 2.1. In relation to improved acknowledgment of competence, pWA have reported reduced feelings of communicative incompetence (Mc Menamin et al., 2015). In addition, given the

opportunity to reveal competence, the evidence suggests that pWA find it easier to talk and engage in more enjoyable conversations even with trained unfamiliar conversation partners (Mc Menamin et al., 2015). The use of supportive multimodal strategies during conversation increases comprehensibility of the PWA for the communication partner (Hickey et al., 2004), again improving conversational outcomes. The pWA therefore demonstrate increased levels of confidence overall and in their ability to converse in a range of topics (Mc Menamin et al., 2015). Improvements in the communication skills (e.g., improved use of written supports for communication) of the trained communication partners, have been reported across studies designed to explore CPT for different categorical groups of communication partners (e.g., Hickey et al., 2004; Mc Menamin et al., 2015). Family members as a group have been studied as communication partners in a large proportion of studies (Blom Johansson et al., 2013; Sorin-Peters, 2004; Sorin-Peters & Patterson, 2014; Terradillos & López-Higes, 2018).

CPT directed to family members and significant others has evidence of improving relationships (Sorin-Peters, 2004) and positively impacting all members of the family that receive training (Terradillos & López-Higes, 2018). Trained family members perceive an increased level of understanding and knowledge about the complexities and impact of aphasia (Blom Johansson et al., 2013) and increased acceptance of aphasia following exposure to CPT (Sorin-Peters, 2004). CPT appears to be beneficial for family members and spouses specifically in terms of improving their skill in supporting communication for the PWA (Simmons-Mackie et al., 2010). Improved interaction and positive changes to the transaction of information during conversational interaction have been documented as result of training significant others (Sorin-Peters, 2004). Positive changes in the ability to reveal the cognitive competence of the pWA and increased shared control in conversational interaction, reduced use of test-questions and increased ease, laughter and naturalness of conversation are important and valuable consequences of CPT (Sorin-Peters, 2004). Individually directed communication partner approaches for dyads such as couples have demonstrated benefits for improving shared pleasantness in communication interaction (Croteau et al., 2018), improved conversational flow (Terradillos & López-Higes, 2018), reduced maladaptive behaviours such as engagement in pedagogic activities, reduced displays of inattention and use of dismissive language (Saldert et al., 2015). The trained family members therefore benefit from being able to facilitate meaningful communication interactions that go beyond the functional needs of the PWA such as engaging in conversational genres, for example, 'reminiscence', 'discussions', 'sharing ideas' (*ibid*). The increase in the adoption of communication strategies to support and enhance the depth and naturalness of conversation interactions subsequently minimises the distress otherwise associated with the aphasia while preserving the PWA's sense of autonomy (Andersen & Isaksen, 2016). In addition, with improved communication and increased life-participation being identified as two highly important goals for pWA and their families (Wallace et al., 2017), the application of CPT to training family members remains highly important and crucial for the reintegration of pWA. The importance of training family is even more important in contexts where resources are constrained and where family members are considered the most important resources for people with disabilities. It is unfortunate however, that the application of CPT in such contexts has been minimal and therefore warrants exploration.

### **2.6.3 Evidence for CPT: Wellbeing and quality of life**

There is evidence to show that the impact on conversation has a ripple effect on QoL and wellbeing of pWA and their CPs (Simmons-Mackie et al., 2016). The primary goal of CPT is to improve communication and enhance participation in social interactions. We expect the improvements in conversation to impact on QoL because QoL is said to be associated with changes to social interaction and reduction in participation (Cruice et al., 2006; Vickers, 2010). Simmons-Mackie and Damaico (2007), suggest that reduced communication access can have a significant negative impact on QoL. The literature on communication partner training has demonstrated benefits for enhancing positive social connections between family members, enhancing their ability to engage in communication that goes beyond need based interaction (Saldert et al., 2015). People with aphasia who engage in conversations with trained conversation partners may therefore experience reduced feelings of loneliness, isolation, helplessness, feel a regained sense of autonomy and a feeling of increased control over their conversations, interactions, day-to-day activities, healthcare plans and decision making surrounding their healthcare. Regaining this sense of control has been reported to allow for transformative experiences among pWA relating to identity, self-confidence and independence (Mc Menamin et al., 2015). The improved ability to share information has also had a positive impact on the relationship and intimacy between pWA and their significant others and family members (Sorin-Peters, 2004). It helps them to move away from the assumed carer-PWA relationship to a more natural mutually respecting relationship between spouses and family members. It also helps to improve “health and participation inequities” (Wiseman-Hakes et al., 2020, p. 19) for pWA following stroke and brain injury and encourages collaboration, cooperation and shared burden between the PWA and those around them. Such transformative experiences are of importance as reduced self-esteem, quality of life (Sorin- Peters, 2003), social “marginalization and vulnerability to “secondary handicap” are recognized long-term risks of aphasia” (Mc Menamin et al., 2015, p. 889)

### **2.6.4 Complexities with measuring and interpreting outcomes of CPT**

Despite the mounting evidence for CPTs, measuring and interpreting outcomes has remained challenging. Challenges in measuring outcomes relate to the complex and challenging nature of the outcomes targeted through CPT as well as the typical challenges with aphasia research regarding heterogeneity of the population.

Firstly, while CPT is often directed at the communication partner, the goal of CPT is to facilitate successful communication interactions between pWA and their CPs (Saldert et al., 2018). This indirect element increases the complexity in measuring the outcome of the intervention (*ibid*). Studies have also reported that participating CPs demonstrate improved success in minimising barriers to communication access and interaction but with less success in employing newly taught strategies (Beeke et al., 2014). Such outcomes are difficult to capture using quantitative measures and may be better captured using qualitative analysis of the conversational data. In relation to documenting impact, it has been suggested that learning and implementing new strategies in conversation may require more time and practice (Blom Johansson et al., 2013) to manifest in clearer outcomes. In addition, the distal anticipated impact of CPT such as on QoL are also challenging to measure. Wellbeing and quality of life are constantly changing and often affected by various external factors which make it challenging to measure the impact of CPT

specifically. In addition, challenges with reliably measuring the QoL of pWA have been suggested owing to the nature of aphasia (Raven-Takken et al., 2020). However, in their recent study, Raven-Takken, Ter Wal and Van Ewijk (2020) demonstrated that pWA with moderate severity can in fact reliably report on the SAQOL-39NLg (that is the Dutch Version of the SAQOL-39g). The authors however recommend the use of support strategies during administration of the questionnaire to ensure reliability of the responses (*ibid*).

In some studies, the findings following implementation of CPT were inconclusive (Eriksson et al., 2016). The authors however, suggest this may be associated with the characteristics of the communication partner and attitudes towards communication, prior to exposure to CPT (Eriksson et al., 2016; Turner & Whitworth, 2006) and may also be associated with the emotional (Sorin-Peters, 2004) and psychosocial consequences of aphasia (Eriksson et al., 2016). Johansson, Carlsson and Östberg (2013) suggest that readiness of the family communication partners to engage in aphasia rehabilitation and CPT may also be a factor influencing the outcome of CPT. Sorin-Peters and Patterson (2014) suggest that CPT interventions would need to consider the individual training needs and learning styles of each participant to have more positive outcomes; and Johansson, Carlsson and Östberg (2013) highlight the need for more individualised services directed to family members of pWA. Eriksson and colleagues (Eriksson et al., 2016) also suggest that in consideration of the variation in performance the challenge with recognising and controlling the plethora of factors that might influence treatment outcomes for intervention approaches such as CPT, individual evaluation of the impact of CPT might be better suited than group designs. Owing to the complexities associated with outcome measurement in CPT (Saldert et al., 2018), researchers suggest that it might be beneficial to use qualitative analysis of video recorded conversational interactions alongside quantitative measures to avoid missing out on changes and outcomes that might not be captured by the outcome measures used (Blom Johansson et al., 2013; Eriksson et al., 2016). The use of both self-report measures and observational methods is therefore recommended (Saldert et al., 2018).

## **2.7 Summary**

This chapter described the changes in interpersonal and family communication when a PWA is part of the conversation. The changes in terms of communication roles, power dynamics, inequalities are described. The inseparable relationship between the changes in communication, the general participation within the society and the consequential impact on quality of life for pWA are described. The impact of aphasia extends to those around the pWA, especially the family members and primary caregivers of pWA. In this thesis we are really trying to highlight the role of the family members beyond caregiving duties or activities. The ways in which their lives are affected, the stressors and role changes are addressed. Antonovsky's 'Salutogenic model' and the concept of 'Sense of Coherence' is then introduced in consideration of adopting a -health-promoting approach to rehabilitation and reintegration of pWA. The social model of disability as applied to aphasiology by Byng and Duchan (2005) is described to introduce Communication partner approaches for the reintegration of pWA within their families and the society. Three prominent CPT approaches are described and contrasted in terms of their potential for implementation in majority world contexts. The evidence base for CPT approaches is discussed and gaps in literature surrounding CPT are identified particularly the lack of exploration with people with acute aphasia and within the context of majority world

countries. Despite the enormous evidence base, CPT is a complex intervention and the challenges and complexities in measuring the impact of CPT as reported thus far is therefore discussed.

The exploration of CPT within the context of majority world countries is therefore warranted and this thesis focuses on its exploration specifically within the context of India. The next chapter therefore describes the socio-cultural constructs that warrant consideration to expand the evidence base of CPT to the complex and diverse majority world context of India.



### **3 Socio-cultural considerations in communication interventions: The Indian context**

India is a country that is home to a huge variety of cultures, ethnicities, values, traditions, languages (Worthington & Gogne, 2011). Values that have originated in ancient Indian history such as the belief in *Karma*<sup>1</sup> and the idea of a 'just world' have always been so deeply ingrained in the minds of the people (Dalal, 2002). Some of the traditional values, ancient ideologies and traditions have passed down multiple generations, evolving in the process. This section describes some of the culturally specific aspects of family in the Indian context, while recognising that there is no 'one India' when it comes to cultural and linguistic features. The chapter begins by addressing culture, family relations and communication and interaction styles (section 3.1), and the attitudes and response to changes brought about by disabilities (section 3.2), including the involvement of family and the transitions in the Indian context over the years. The chapter then addresses the context of aphasia in India, describing the prevalence of stroke and aphasia (section 3.3), and the current practices in aphasia rehabilitation (section 3.4). A summary (section 3.5) concludes this chapter.

#### **3.1 The Indian context: Culture, family relations and communication and interaction styles**

Culture influences every aspect of a person's life, their thoughts, actions, way of life (Worthington & Gogne, 2011), 'quality of life' (Sorin-Peters, 2003) and their outlook on life (Chadda & Deb, 2013). It is difficult to describe the Indian Culture in its entirety due to its vast and diverse cultural heritage (Worthington & Gogne, 2011). Indian society is traditionally known to be a collectivist society (Avasthi, 2010; Chadda & Deb, 2013; Voronov & Singer, 2002), in that it promotes a cohesive, unified bond between members within an in-group (i.e., the social group with whom a person identifies with and has a sense of belonging to) where individuals are interdependent (Avasthi, 2010; Chadda & Deb, 2013) on each other for various needs (Dommaraju, 2019; Thara et al., 2013) and are loyal to each other (Avasthi, 2010; Voronov & Singer, 2002). This view of Indian society, however, has been challenged by researchers who suggest a more individualist-collectivist society (Voronov & Singer, 2002) in response to increased globalisation. Increasing intercultural influences creeping in from the minority world and the increasing diversity in culture may be influencing societal structures, functioning and values. Despite the transitions and the vast pluralism (multiple traditions), two factors that have remained of great importance throughout all generations are: family (Avasthi, 2010; Dalal, 2002; Dommaraju, 2019) and religion (Dalal, 2002). The collectivistic nature of Indian society is evident in the way interdependent roles and relationships continue to define the family structure and function (Avasthi, 2010; Chadda & Deb, 2013). The cohesive family unit may be considered as a highly influential part of the ingroup in collectivist societies (Harwood et al., 2006) such as India (Avasthi, 2010; Chadda & Deb, 2013; Voronov & Singer, 2002) and forms the "nucleus of all social relationships" (Avasthi, 2010, p. 113). The impact of the societal in-group on the individual family units within it is therefore significant. Society sanctions the roles, defines the boundaries, communication and interaction styles and

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<sup>1</sup> Karma- The belief that a person's past or present actions will decide their fate and luck in future

hierarchical patterns. (Chadda & Deb, 2013). The cultural norms are further influenced by changing family dynamics and are often adjusted to the needs of the individual family unit (*ibid*).

Patriarchal families, in which male members are held in possession of power and authority within the family, are typically predominant in the Indian context (Avasthi, 2010). The earning males are expected to take responsibility for the financial needs of the other members. However, matriarchal families, in which the family is characterised by a female member as the authoritative head, are also becoming more common in the Indian context (Chadda & Deb, 2013). The duties relating to caring for people with disabilities is often considered a shared responsibility (Dalal, 2002; Thara et al., 2013) of the family, however, with increased duties taken up by the female members of the family (Karten, 2018). Hierarchical rules vary between families, but an overall collectivistic nature is prevalent. The traditional joint family system in India comprises three to four generations who live together on shared property and shared finances (Avasthi, 2010; Chadda & Deb, 2013; Seymour, 1999) and support each other in all aspects, taking on additional duties when faced with internal challenges and crises (Thara et al., 2013). However there are multiple factors which contribute to changing family dynamics and changing cultural norms, including an increasing number of nuclear families that are breaking away from the joint family system (Avasthi, 2010; Chadda & Deb, 2013). A recent study based on “data from the National Family and Health Survey (NFHS)”, 2015-16 indicated that about 58% of the rural and urban households in India, collectively, are nuclear (Dommaraju, 2019, p. 50). In addition, the increasing number of full-time working women, the increasing number of people with disabilities in professional and leadership roles (Dalal, 2002), the migration of younger family members to other cities, states and countries and the reduced age of the oldest member in the household (Chadda & Deb, 2013; Shah, 2015) contribute to the changing family structures and dynamics in India. There is an evident change in the traditional power and gender roles in some families as a result (Chadda & Deb, 2013).

Gender roles and related power dynamics are present across countries to varying extents. In India, husbands and fathers are typically considered to be the primary bread winners of the family (Shah, 2015), and therefore assume the position as the head of the family nucleus. In a joint-family system, the oldest earning male member is the head of the family. Wives and Mothers are considered to be the revered figure that cares for the members of the family (Ghosh, 2015; Seymour, 1999; Shah, 2015), takes care of the husband, the children, and other members who share the same household. In families where the wife has a full-time job, challenges with balancing the professional workload and the household are common (Shah, 2015). This may be influenced by the notion that household chores and family caregiving are the duty of the ‘homemaker’ (Ghosh, 2015) which may overshadow any other role a woman might undertake. For example in traditional Bengali (from Bengal—a state in the north-western region of India) families, a woman’s life “can be divided into three phases: daughter, wife and mother” (Ghosh, 2015, p. 78). This demonstrates how a woman’s position is viewed—in a caring role relating to male members in the family. In families with ageing parents, it is common that the primary caregivers are the daughters or the daughters in law (Karten, 2018; Ugargol & Bailey, 2018), while sons take on the responsibility of supporting the family and managing the finances for parents who are aged or disabled (Karten, 2018). These assumed roles also manifest in

decision making and in the power dynamics during conversation and interaction. The woman's involvement in decision-making is further dependent on her relationship with her husband. Where the husband and wife have a strong relationship, the woman may assume more power and an equal position to that of their husband or sometimes even her in-laws (Allendorf, 2012). This is different in families where husbands are more traditional and prioritise their parents before their spouses (*ibid*). Here the in-laws or the older members in the household have a higher stand when it comes to making decisions about the family and the household. In families with patrifocal values, the wives are also then expected to put the needs and preferences of her family group before those of her own (Avasthi, 2010; Seymour, 1999). This is applicable to both joint and nuclear family systems (Allendorf, 2012). In relation to conversation and interaction styles, the males often assume the more assertive (Palomares et al., 2016) powerful and dominant position as the head, while the females take the subservient position (Avasthi, 2010). From the perspective of theories of social interaction, such as Communication Accommodation Theory, these dynamics would manifest in the form of 'interpersonal control strategies' (Harwood et al., 2006) employed during conversational interaction. Communication Accommodation Theory is discussed further in chapter 4.

In addition to the influence of hierarchical systems on interaction patterns within families, factors such as age, education, ability, social conduct, world views and values, residency (urban or rural) also impact both, the decision making as well as the conversation and interaction patterns between individuals (Palomares et al., 2016). The age of an individual in the family irrespective of gender has an influence on the amount of respect provided. The older members are warranted a higher amount of respect that is made evident in conversation and interaction styles. Older members are considered to have more 'years of experience' and therefore assume higher power positions in family communication and interaction. Traditionally, as documented in older literature (e.g., Seymour, 1999), Indian men looked for brides who were younger and less educated so as to "preserve the male-based hierarchy and authority system" (p.55). Hierarchically, children stand below the parents and are less involved in general decision making (Dalal, 2002). Contrarily, role reversals sometimes occur where older adults may become less independent, and the children assume the dominant, caring role. In conversation, this may manifest in the form of 'control strategies' (Harwood et al., 2006) which can have an impact on the family dynamic.

### **3.2 Living with disability: Attitudes and social constructs in the Indian context**

Social constructions of disability in India often result in reduced freedom, arbitrary deprivation, "social and political marginalization" (Ghosh, 2015, p. 78). Dalal (2002) describes how people with disabilities are most often symbolised as being 'children' in ancient Indian texts such as the Mahabarat (An ancient Indian Sanskrit epic written by Veda Vyāsa—वेदव्यासः veda-vyāsaḥ). This symbolism is reflected in the parent-child patterns of social interaction involving people with disabilities documented and observed in the Indian context (Dalal, 2002). People with disabilities are assumed to have reduced potential and reduced functional capability owing to their disabilities. They have been considered as incapable of independence and formal employment and were thus considered the responsibility of their family, community and as state beneficiaries (Mehrotra, 2011). For example, women with disabilities are often considered to be 'unfit' to take on their socio-

culturally designated roles as ‘homemakers’ are therefore considered as being weak, undesirable, asexual, dependent, and as having unproductive bodies (Ghosh, 2015). In some older texts people with disabilities have appeared as beggars (Miles, 2002). In ancient India, traditional Brahmanic<sup>2</sup> communities, considered people with disabilities as unfit for inheritance owing to their perceived low-value for conducting rituals (Buckingham, 2011). Such attitudes have therefore historically been associated with the wider view that having an impairment or a disability is problematic (Grue, 2015) and incapacitating (Buckingham, 2011) and reinforces the idea of ‘dependency’ (Dalal, 2002; Mehrotra, 2011). In the example describing ‘women with disabilities’, however, the assumptions and attitudes are associated with both, patriarchal views and socio-cultural ideologies surrounding people with disabilities in the Indian context (Ghosh, 2015).

Within the Indian context, it is not uncommon for a number of distinct factors to intersect and intensify the negative experiences of people with disabilities. Studies have suggested that the ‘intersectionality’<sup>3</sup> (Crenshaw, 1989) of particular disadvantageous class, caste and gender affiliations can have significant outcomes for some aspects of health (e.g., Mukhopadhyay, 2015). Buckingham highlights “the role of poverty, gender, caste and community in compounding the marginalisation felt by people with disabilities” (2011, p. 419). For example, for women with disabilities, accessing education has historically been much harder owing to the tendency in India to lay preference on male education (Tilak, 2002). As a result, the disability intensifies the tendency among Indian women to be economically and physically dependent (Buckingham, 2011; Thomas & Thomas, 1998). In addition, people with disabilities belonging to middle-class families are likely to have more opportunities for education and employment in comparison to those from families in poverty which further compounds the marginalisation the poorer people with disabilities might face (Buckingham, 2011). Where caste and communal status intersect with disability and poverty, the lack of opportunities, access to education, healthcare and marginalisation from society is further intensified (Alexander & Buckingham, 2008). For men with disability, in families where the male is the sole earning member, the family often faces significant financial distress which exacerbates the strain felt on the family. All of these challenges compound the already existing barriers to accessing healthcare for people with disabilities (Barik & Thorat, 2015). The intersectionality of disability with other aspects of identity can therefore have significant consequences for discrimination, stigmatisation, marginalisation, isolation, and reduced participation within the complex and diverse Indian context. These patterns, however, cannot be generalised. A large part of the self-identity, perception of the extent of disability and dependency is also associated with the success of the person with the disability and the family members in relation to economic success and family life (Karten, 2018).

In many contexts globally, “impairment remains an *exigence* – something that must be addressed and solved” (Grue, 2015, p. 207). This view of impairment and disability is

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<sup>2</sup> Brahmanic—Ancient tradition which emerged from Vedic religion and was the predecessor of Hinduism, where Brahma is considered as the divine power that created and sustains the universe.

<sup>3</sup> Crenshaw (1989) coined the term intersectionality in relation to race and gender. She suggested the idea that an individual’s identity is actually an intersection of different identities. The concept of intersectionality however can be applied to any aspect of identity.

reflected in the rehabilitation practices in the Indian context (e.g., Buckingham, 2011; Dalal, 2002; Mehrotra, 2011). Where welfare and rehabilitation services have emerged, the focus has often remained on mandates guided by the medical model of disability that focuses on the impairment (Mehrotra, 2011). These groups work to solve problems and provide solutions identified by experts such as physicians and social workers rather than reflecting the needs and perspectives of the people with disabilities themselves (*ibid*). The stigma associated with having a disability, heightened by socio-cultural ideologies, state actions and responses to injustices faced by people with disabilities results in the suppression of the voices of the disabled (Ghosh, 2015). In addition, the cost associated with stigmatisation of disabilities in majority countries such as India has resulted in low levels of literacy, high unemployment and high cost of healthcare (Mehrotra, 2011). In people with acquired disabilities, role changes occurring may sometimes be considered as due punishment owing to something that the person has done to “deserve” the acquired disability (Dalal, 2002; Karten, 2018) and detracts from the concept of ‘rights’ (Hiranandani et al., 2014). As a result, social stigma (Ghosh, 2015), feelings of guilt, embarrassment, hurt and anger are emotions that have been documented as being felt by the people with disabilities and their family members. The collective consequences may negatively impact on the quality of life of the people with disabilities and their families and often results in a lack of participation and interaction with other members of the family or community.

In contrast, in the context of the minority world and in line with the WHO's definition of disability and the United Nations (UN) Convention on the Rights of Persons with Disabilities (United Nations, 2012), disability is viewed as product of the impairment and the social, attitudinal and environmental barriers (Hiranandani et al., 2014). The onset of disability is therefore often met with attempts to enhance and enrich the accessibility of the environment thereby supporting participation for the person with the disability. Within the Indian context, attempts at inclusion of people with disabilities within the community have been made largely by charitable institutions or individuals (Hiranandani et al., 2014). However, the narrow understanding of community inclusion and the lack of information, guidance and enforcement of inclusive policies and rights, has prevented some of these programs from being truly inclusive and accommodating of the needs of the people with disabilities and are therefore problematic (*ibid*). The challenges such as the lack of awareness (Kasthuri, 2018) and information, stigmatisation, attitudes of staff and communication barriers pose as significant barriers to healthcare services across majority world countries (Baart & Taaka, 2017). To address the challenges faced by people with disabilities in the Indian context, the state must take examples from the minority world to promote positive imagery of people with disabilities by acknowledging their abilities, building their self-confidence and through initiating and supporting programs that “promote inclusion and appreciation of their abilities within families, communities and in society” (Ghosh, 2015, p. 91) and ensure consideration of the needs of people with disabilities at each step of the way.

The potential for community-based rehabilitation in majority world countries to address some of the gaps in service provision and rehabilitation and reintegration of people with disabilities has been suggested by the WHO as well as international researchers. Alim and colleagues (2016) suggests that training community rehabilitation workers, volunteers as well as family members to carry forward the training to the broader community in India is

important for resource-development. However, while the 'World Report on Disability' (WHO, 2011) recommends the involvement of community based rehabilitation (CBR) workers in rehabilitation as a way to challenge unfavourable and negative attitudes towards disability in rural communities, Mehrotra (2011) argues that most of the CBR practices are more suited to urban communities in India and have not fully considered the needs of people living in rural communities. In consideration of resource constrained nature of the Indian context, Thara, John and Chatterjee (2013) suggest the importance of creatively developing and building resources including training and involvement of community based workers and more importantly, family members of people with disabilities.

### **3.2.1 Family: Involvement in rehabilitation and reintegration for people with disabilities**

Family is of utmost importance to people in India and is their direct connection to society (Dommaraju, 2019), especially for people with disabilities (Dalal, 2002). Families being strong, cohesive, and secure units, "provided an identity and a sense of security to its members, irrespective of their physical disabilities." (*ibid*, p. 20). The importance of family is evident in the focus of researchers and mental health workers on researching family, family structure and support in India (e.g., Bhatti et al., 1986; Karten, 2018; Thara et al., 2013) which has implications that could be extended to other clinical populations within this context. Research, which is now somewhat dated, has demonstrated that family members in India may assume the roles of "auxiliary personnel" who support the rehabilitation programme (Nunley, 1998, p. 317). Providing social, emotional and economic support was considered the responsibility of the entire family (Thara et al., 2013; Worthington & Gogne, 2011). The 'routine and maintenance' nature of involvement as described by Dalal (2002) also meant that decisions about the individual's health and rehabilitation were made by the family members (Thara et al., 2013) with little patient authority. The nature of support provided, however, and the extent to which it can be provided are often determined by the families' socio-economic status and caste (Dalal, 2002).

There is long standing recognition of the importance of family in rehabilitation, although this has frequent been constructed as family members conducting exercises with the person with a disability. For example, Karanth (1989) highlighted the importance of family support in aphasia rehabilitation within the context of India and suggested that long-term benefits from rehabilitation are enhanced with family involvement in rehabilitation through home training programs and the overall family support. For people with disabilities in India, the "sense of belonging [within the family] was the most cherished goal and any threat of isolation, or of social proscription was considered the worst thing to happen to anyone" (Dalal, 2002, p. 21). For individuals with severe aphasia and other acquired communication disorders, the reduced conversational and social interaction could have a significant effect on their relationship with the family members. The sudden drastic changes following the onset of aphasia could thereby pose a threat to the relationship between the people with aphasia and their family members who live with them.

Arguably, the strength of the family unit within the context of India has not been fully harnessed. For people with mental health, language and communication disorders the

involvement of family members in the rehabilitation process and setting could facilitate their exposure to engaging in communicative and social interaction with those individuals with whom they would have to routinely engage with in the real world (Nunley, 1998). Thus, capitalising on the family members as important resources (Thara et al., 2013) for the individual with aphasia and supporting them in the use of communication partner strategies would create opportunities for people with aphasia in India with low-cost access to communicative interaction with those individuals who have maximum impact on their lives. The involvement of family members in the process of rehabilitation would thus result in care that is humane (Nunley, 1998), resource-efficient, cost-effective, efficacious, empowering, more comprehensive (Thara et al., 2013) and that which facilitates true reintegration of people with aphasia into the family units of society.

### **3.2.2 Transitions in healthcare in the Indian context**

With modernization and education people have better understood the causal relations of various disorders and disabilities as well as the importance of physical medicine and rehabilitation. Increasing avenues for rehabilitation in all healthcare sectors, the recognition of the abundance of existing human resources (Kumar et al., 2012), progress made in the field of medical and biological sciences, all collectively contribute to advances in healthcare options (e.g., Alim et al., 2016). While rehabilitation services focusing on specific impairments provided reassuring outcomes, most of these services were only available at the larger hospitals and healthcare centres within the cities leaving a large number of people with disabilities in the more rural areas stranded with little access to healthcare services (Barik & Thorat, 2015; Karanth, 1989, 2012; Kumar et al., 2012; WHO, 2011). The issue of reduced access to services continues to persist as transportation costs cannot always be met and/ or accessed by families coming from a lower socio-economic background (Barik & Thorat, 2015; Kasthuri, 2018; WHO, 2011). The World Report on Disability (WHO, 2011) identifies cost, lack of services in the area and transportation as the top three identified barriers to accessing rehabilitation services in the Indian states of Tamil Nadu and Uttar Pradesh. The reduced access to adequate healthcare services places people at increased risk of mortality and morbidity particularly in the rural areas (WHO, 2011). With the population growth, the lack of infrastructural space has prompted health care providers and entrepreneurs in the health industry to shift their centres to the outskirts of cities making access to health services difficult even for the middle and higher socio-economic strata of society. The distant location of healthcare facilities has resulted in people being temporarily displaced from their homes during periods of healthcare. The high cost involved in most cases, can only be afforded by some. The challenges with access to healthcare such as cost, restricted mobility and inaccessible facilities are common to majority world countries (Baart & Taaka, 2017). The inconvenience, time and cost involved results in a high dropout rate from services and a reduction in the maintenance of healthcare for those that cannot afford or access the services (Karanth, 1989; WHO, 2011). Further, the cost and care required to assist them often, does not add up as people feel that treatment is becoming too expensive when outcomes are not always guaranteed with an increased burden felt among older adults particularly in 'low- and middle-income countries (LMICs)' (Kumar et al., 2012). This consequentially has a negative impact on the therapeutic progress of the individual. The reduced availability and accessibility of healthcare and long-term care facilities for the people with aphasia and other disabilities in majority world countries further increases the caregiver burden and strain (Kumar et al.,

2012; Wylie et al., 2013).

Unsatisfactory results in rehabilitation, due to the factors outlined, have prompted professionals to think “out of the box” (Karanth, 2012, p. 242) and adopt more resourceful (Kumar et al., 2012) approaches to the rehabilitation and reintegration of people with disabilities. These approaches demonstrate a shift towards the social model of disability. Evidence from ‘Early supported discharge’ programs which have been recommended and implemented in minority world countries (Langhorne et al., 2005; Langhorne & Legg, 2003) has informed a more recent focus on home-based family therapy (e.g., Alim et al., 2016) to facilitate adherence to rehabilitation and more effective long-term care. This progress in the involvement of family members has also been seen in speech language therapy (Karanth, 2012) although with a focus on children with autism spectrum disorders (eg., communicationdeall.com), in acquired brain injury as a multidisciplinary approach (e.g., Reddy & Vranda, 2012) but not specifically in the rehabilitation of people with aphasia in India. In addition to family support, community support for people with disabilities is fairly reachable within the Indian context (Mehrotra, 2011). The National Programme for Prevention and Control of Diabetes, Cardiovascular Diseases and Stroke launched in January 2008 by the Ministry of Health and Family Welfare under the government of India aims to improve the delivery of healthcare services at the community level with the involvement of caregivers which is “clearly aligned with a family-led rehabilitation model” (Alim et al., 2016, p. 7). While the focus on family involvement and social reintegration has been seen in areas of physiotherapy, paediatrics and in services addressing non-communicable diseases, the availability of services specifically for older adults is significantly lower (Kumar et al., 2012; World Health Organization, 2011). Involving family members in healthcare across disciplines, acknowledging them “as presumptively competent providers of care” (Nunley, 1998, p. 321) and involving them as learners as well as resourceful sources is essential for positive and effective collaboration between health professionals and the families of people with disabilities.

### **3.3 Prevalence of Stroke and Aphasia in India**

The prevalence of stroke has increased globally, with higher prevalence in the more developing countries like India (Kaur et al., 2020). The WHO has estimated that by 2050, 80% of the stroke cases in the world would occur in low and middle-income countries causing pre-mature death and disability. India and China are among the two main countries identified in these estimates. India, since the year 2014, has been said to be in the midst of a stroke epidemic (Kaur et al., 2017). According to a study published in the Journal of Stroke, the prevalence rate of strokes is 84-262 per 100,000 people in rural India and 334-424 out of 100,000 people in cities (Pandian & Sudhan, 2013). Of those, 11% to 40% of stroke survivors in the Indian context are reported to have aphasia (Paplikar et al., 2020).

### **3.4 Aphasia Rehabilitation: Current Practices**

With little change in the traditional outlook on rehabilitation of people with aphasia in India, very little progress has been seen in the field of aphasia (Karanth, 2012). Various surveys and studies in fact highlight the inadequacy of services, research and assessment tools that could potentially benefit the people with aphasia in India (Karanth, 2012; Krishnan & Tiwari, 2009). Karanth (2012) further reports that SLT’s “listed the lack of adequate time for rehabilitation and the general inefficiency of the therapy technique” (p.



241) as some of the reasons that contributed to the inadequacy of services. At the time Karanth published her study, she reported "a general lack of confidence in terms of outcome of speech language therapy for persons with aphasia" among physicians, therapists and consequently, the family members of people with aphasia (*ibid*, p. 241).

In a country where most people are either bilingual or multilingual and exposed to more than two languages, the changes after aphasia are more complex with difficulties presenting in all languages and issues arise when deciding which language needs to be the focus in therapy (Karanth, 2012). Issues also arise in terms of selection of appropriate assessment tools. The lack of availability of tools in many Indian languages results in the use of informally translated tools that may not have been validated and thus may yield scores that are not reliable (Krishnan & Tiwari, 2009). There are well researched resources available for the rehabilitation of people with aphasia in many countries. While these resources have scientifically demonstrated a significant impact on the rehabilitation of people with aphasia, they are not all culturally relevant across all contexts and thus lack relevance in a context like India (Karanth, 1989; Kaur, Bajpai, et al., 2017). The difficulty in accessing health services due to the time, money and distance involved, the lack of access to public transport and the reduced availability of appropriate services (Karanth, 1989, 2012; Worthington & Gogne, 2011) often leads to a high drop-out rate in therapy (Karanth, 1989, 2012). India has an abundance of resources in terms of family and the community which could be capitalized on. Appropriate resources that take into account the rich sociocultural and sociolinguistic background and which could be used in conjunction with family and the community are lacking and need to be developed and researched. This has begun to be demonstrated in related fields such as physiotherapy (Alim et al., 2016).

The focus of rehabilitation of people with aphasia in the Indian context, has primarily been on the linguistic impairments of the person with aphasia. Due to the lack of resources that suit the Indian context, SLTs use tools adapted from the minority world (typically English-speaking countries) for the purpose of assessment and intervention. Assessment tools such as The Western Aphasia Battery (Kertesz, 1982) has been translated and adapted into several Indian Languages; Intervention tools such as Melodic intonation therapy (MIT) (Albert et al., 1973), Voluntary control of involuntary utterances (VCIU) (Helm-Estabrooks & Barresi, 1991), Helm elicited program for syntax (HELPSS) (Helm-Estabrooks & Albert, 1991) have all been translated and adapted for local use. Each of the original tools in these examples are based on research on predominantly monolingual speakers of English or related European languages (Karanth, 2012). Over the last decade however, there has been an increasing amount of research undertaken to translate and adapt tools developed and used in the minority world context to the Indian context (e.g., Kaur, Chopra, et al., 2017; Paplkar et al., 2020). There has also been a significant amount of adaptation and development of culturally relevant tools for the assessment, therapy and rehabilitation of people with aphasia (e.g., Goswami et al., 2019; Kaur et al., 2020; Kaur, Bajpai, et al., 2017; Shenoy et al., 2017). The advancements in research, have identified and addressed some long-standing gaps in the Indian Aphasia literature focused on the linguistic impairments associated with aphasia and some research that incorporates the domain of functional communication (e.g., Goswami et al., 2019). As described in section 2.3, there is evidence to suggest that the lack of functional independence, affects the quality of life of the PWA and that the resultant anxiety and depression further enhances functional dependence

(Raju et al., 2010) which in turn has an impact on the well-being and quality of life of the family members and those around the person with aphasia (Grawburg et al., 2013, 2014; Howe et al., 2012; Sorin-Peters, 2003). With the resultant shift towards focusing on the overall impact of the aphasia on both the persons with Aphasia and their family members, as well as on optimizing communication, "models of healthcare that look at improving the quality of life, especially social and life participation, are being followed more actively" (Karanth, 2012, p. 241). There however remains a significant vacuum in the research on the social, interactional and participatory aspects of aphasia in the Indian context.

The government of India passed the 'Rights of Persons with Disabilities' Act in December 2016, which supports a holistic approach to disability and focuses on improving the level of social activity and participation in society for people with disabilities (Goswami, 2020). Goswami, applies the act to people with aphasia—

*Persons with Aphasia are legitimately placed under the protection of "Language Disability" of RPWD-2016 for the impact of this condition on "a person with long term physical, mental, intellectual, or sensory impairment which, in interaction with barriers, hinders his full and effective participation in society equally with others." (Goswami, 2020).*

The act implies the central governments initiative to enhance the accessibility for people with disabilities including 'speech and language disabilities', placing the onus of execution on the state, healthcare professionals and the wider community (Goswami, 2020). The implications would appear to include ensuring that family members can successfully engage with the person with aphasia to ensure participation in the fundamental unit of Indian society – the family.

A recent report on an 'Expert Group Meeting for Aphasia' in the Indian context, recommends the planning of "regional educational sessions for PWA, their communication partners, and volunteers" (Pauranik et al., 2019, p. 138), as well as the provision of training for pWA, significant others and healthcare workers in the use of alternative and augmentative devices for communication purposes. While the authors recognise the importance of the focus on activity and participation, the focus on the report is predominantly on the 'impairments' associated with aphasia and on producing measurable 'speech' gains. Adoption of social model philosophies in the rehabilitation and reintegration of people with aphasia in the Indian context and communication partner approaches continue to require a significant amount of research and exploration. Within contexts where training CPs for purposes such as delivering therapy tasks at home is valuable owing to the paucity of trained personnel, the risk of misinterpretation of the purpose of 'training' in CPT approaches requires consideration (Kong et al., 2021). Pauranik and Colleagues (2019) highlight the importance of caregivers as home-based therapy providers and facilitators during therapy sessions. This appears to be incorporated into recent rehabilitation programs (e.g., Kaur et al., 2020). However, the role of family members and caregivers in conversation and interaction as communication partners requires significant attention in the Indian context, considering how family roles and relationships can be maintained and respected, beyond that of therapy providers and facilitators.

### **3.5 Summary**

The challenges faced by people with disabilities in India stem from ancient religious, cultural, and social constructs. It is important to understand these constructs and the values unique to the complex and diverse socio-cultural context in India when planning interventions informed by practices and programs which are based on evidence from minority world contexts. While transitions in the Indian context have been occurring, significant challenges continue to exist. The challenges to accessing healthcare that are unique to the context of India and that of similar majority world contexts are therefore crucial to consider when designing interventions and making advances in the field. The high prevalence of stroke and aphasia combined with the intersectionality of various factors unique to people with disabilities in the Indian context warrant the consideration of maximising the skills of family members and banking on them as well as members of the community as important resources in the rehabilitation and reintegration of pWA in India. There is an evident need to focus on improving the quality of life, wellbeing, and social participation of people with disabilities such as pWA in line with social model philosophies as well increase focus on the rights of people with disabilities living in India.

## 4 Communication Accommodation Theory (CAT)

When individuals interact in conversation, they respond and adapt to the communication behaviours of others (Gasiorek, 2016b). The psychological processes that underlie interpersonal interaction, manifest in the form of adjustments in the communicative behaviour of the interacting communication partners (CPs). These adjustments vary across interactions and are fundamental to social interaction (Giles et al., 2010). According to one prominent theory, Communication Accommodation Theory (CAT), these adjustments (termed accommodations), serve to attune to, or deviate from, the style of the CP (*ibid*). Given that CPT involves introducing adjustments into the interactions between a PWA and their CPs, CAT has the potential to illuminate the existing adjustments in the face of aphasia, as well as the conversational impact of changes in patterns of adjustment after CPT. This chapter describes the theoretical framework of CAT (section 4.1) including adjustment in communication, factors influencing adjustment and the perceived extent of adjustment. The strategies for adjustment are then discussed in section 4.2. The application of CAT to family communication (section 4.3) and the usefulness of CAT as a tool for analysing communication interaction (section 4.4) is then described. A final summary of the chapter is presented in section 4.5.

### 4.1 Conceptual framework of Communication Accommodation Theory (CAT)

CAT is a 'logical-empirical theory' (Harwood et al., 2006; Soliz & Bergquist, 2016), in that its application allows for understanding and causal explanation of 'how and why' individuals interact in the manner in which they do (Harwood et al., 2006, p. 19). It serves as an approach to explain why, how and when individuals alter their conversational patterns by attuning to or deviating from the style employed by their CPs (Dragojevic et al., 2016; Gasiorek, 2016b). CAT is based on Social Identity Theory which originates in the domain of social psychology (Harwood et al., 2006; Tomsha & Hernandez, 2010). Previously conceptualised more strictly as 'Speech Accommodation Theory' (Soliz & Bergquist, 2016), it broadened to incorporate non-verbal communicative behaviours (Giles et al., 2010; Tomsha & Hernandez, 2010). In addition to observable behaviours CAT takes into consideration the motivations, attributes and consequences that underlie the adjustments in communicative behaviour (Tomsha & Hernandez, 2010). The application of CAT therefore enables identification of factors that might influence adjustments in conversational partners.

CAT suggests that people adjust their communication "in pursuit of positive personal and social identities" (Gasiorek, 2016b, p. 28). Adjustment is considered to serve two distinct purposes (Dragojevic et al., 2016; Gasiorek, 2016b). The affective function which has been the primary focus of majority of the work using CAT (Gasiorek, 2016b), relates to the social and relational identity aspects of communication (Gasiorek, 2016b; Tomsha & Hernandez, 2010). The cognitive function (Gasiorek, 2016b) focuses on the comprehensibility and the accessibility of the information being shared during communication and serves to attain communication efficiency (Dragojevic et al., 2016; Tomsha & Hernandez, 2010).

This section provides a description of the broadly categorised types of adjustment (see section 4.1.1), the factors influencing adjustment (see section 4.1.2) and the extent of

adjustment as perceived by the listeners (see section 4.1.3). The strategies for adjustment which are at the core of CAT (Dragojevic et al., 2016) are described in the following section (see section 4.2).

#### 4.1.1 Types of Adjustment in Communication

Adjustment in communication involves the responsive adaptation (Tomsha & Hernandez, 2010) of an individual's verbal and non-verbal communicative behaviour to that of an interlocutor (Gasiorek, 2016b). Adjustment in communication is not a unitary phenomenon. Different kinds of 'adjustment' have been introduced as the application of CAT expanded and extended to a wide variety of contexts and fields of study. Table 4.1. presents the four broad categories of adjustment, which are then discussed in turn.

**Table 4.1 Types of Adjustment**

| Type                    | Definition  |
|-------------------------|---|
| Accommodation           | refers to the adjustment in communication that usually serves to improve the communicative interaction, reduce differences and enhance the meaningfulness and effectiveness of the communication.                                 |
| Nonaccommodation        | refers to the adjustment in communicative behaviour that functions to increase the social distance between interlocutors or hinder effective communication  |
| Reluctant Accommodation | refers to the adjustment in communicative behaviour that occurs when an individual converges to the style of the interlocutor in consideration of the societal and hierarchical norms and not due a personal desire for affinity. |
| Avoidant Communication  | refers to the adjustment in communicative behaviour that occurs when an individual withdraws from participation in communication due to a prior negative experience, stereotypes, etc.  |

Broadly, adjustments may either be *Accommodative* or *Nonaccommodative*. Accommodative adjustment (accommodation<sup>1</sup>) refers to the adjustment in communication that usually serves to improve the communicative interaction, reduce differences, and enhance the meaningfulness and effectiveness of the communication. Adjustment in communicative behaviour that functions to increase the social distance between interlocutors or hinder effective communication between them is termed as nonaccommodation (Gasiorek, 2016a). Further distinctions in adjustments have been described, outlined in Table 4.1, and discussed with examples in the paragraphs which follow. Examples of communication interaction patterns of people with aphasia (pWA), specifically within the Indian context, have been used where relevant, to better orient the reader to the broader context in which this study is situated.

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<sup>1</sup> The term 'Accommodation' was originally introduced in CAT to refer to any adjustment in communication interaction. With the introduction of the term nonaccommodation, to refer to adjustment or the lack thereof that functions to disaffiliate socially or hinders effective communication (Gasiorek, 2016a), 'accommodation' has come to refer to adjustment that is supportive and which serves to enhance social affiliation. In this thesis, to minimise the risk of confusion caused by the dual use of the term 'accommodation', 'accommodation' will be used to refer to only those adjustments that are accommodative in nature.

Individuals adjust their communication to *accommodate* to the interlocutor by employing a context-dependent complex set of available alternatives (Giles et al., 2010). For example, speakers may adjust their speech rate, their accent, their rate of speech, use of gestures to make it similar to that of their interlocutor during interaction (Dragojevic et al., 2016). For example, during interactions with teenagers, an adult might attempt to use teen vocabulary, whereas reduce the rate of speech when interacting with an older adult (Tomsha & Hernandez, 2010). In relation to aphasia, the reliance on structure and sequential placement of turns along with other nonverbal modes of expression such as gestures, facial expressions, body language and intonation to construct and get a message across as in the case of Goodwin's example (see Goodwin, 1995); the management of 'participants frames' by pWA, which is the strategic placement of their contributions to provide clues to their CPs to speak for them (e.g., Simmons-Mackie et al., 2004); the use of noncoherent topic initiation strategies and use of 'cohesion', that is, introducing a new topic by linking it to an ongoing topic (Leaman & Edmonds, 2020) during interaction with typical communicators. In another example from the Indian context, significant others of pWA in India have been observed to reduce their rate of speech, use key words, gestures, avoid talking in noisy situations (Singh & Pauranik, 2017) in an attempt to enhance the effectiveness of the communication interaction when engaging with their partner with aphasia. In all the examples described, the adjustments made are supportive and cooperative in nature and are therefore *accommodative behaviours*.

*Nonaccommodation in contrast*, typically involves a component of disaffiliation, differentiation and disconfirmation demonstrated, intended or as a consequence of the adjustment (Gasiorek, 2016b, 2016a). In interactions involving typical communicators, an example of nonaccommodation may be when individuals of two different nationalities who take pride in their nations language and culture, broaden their accents and pronunciation to differentiate and sometimes disaffiliate themselves from the other (Giles et al., 2010). In interactions involving pWA, research has documented that the significant others of pWA may switch topics pre-maturely, involve more participants in a conversation involving a person with aphasia (PWA) resulting in reduced opportunities for the PWA to contribute to and participate in the conversation (Singh & Pauranik, 2017). In another example, health care providers have often been observed to use only verbal communication when interacting with and examining patients with communication disorders (Burns et al., 2017). The use of verbal communication is a barrier both to people who have difficulty comprehending as well as to those who have difficulty with speech. The lack of adjustment to accommodate the needs of the patients with communication disorders is obstructive to participation and is considered as nonaccommodation.

*Reluctant accommodation* refers to the adjustment in communicative behaviour that occurs when an individual converges to the style of the interlocutor in consideration of the societal and hierarchical norms, obligations and not due a personal desire for affinity (Soliz & Giles, 2014). Here, as the speaker's motivation to accommodate is not directly associated with pursuing positive affiliation and interaction with the receiver, the adjustment is often evaluated negatively by their interlocutor (*ibid*). In relation to conversations involving pWA, an example could be when pWA reluctantly comply with the 'testing' behaviour of their caregivers on whom they may feel dependent and obligated to

while also demonstrating their disinterest in participation through facial expressions, intonation, and gestures.

*Avoidant Communication* refers to the adjustment in communicative behaviour that occurs when an individual withdraws from participation in communication due to a prior negative experience or negative stereotypes (Soliz & Giles, 2014). For example, significant others of pWA have reported discontinuing a conversation when their aphasic partner had difficulty understanding what they were saying (Singh & Pauranik, 2017). Clinicians working with pWA have also anecdotally reported that untrained partners often avoid communication with pWA following repeated contact with them (Kagan et al., 2018).

Individuals have also been observed to adjust their communicative behaviour in ways that are both accommodative and nonaccommodative during the same interaction (e.g., Ziles & King, 2005). The ways in which such adjustments are made are dependent on various factors.

#### **4.1.2 Factors Influencing Adjustment**

Adjustment in communication can be reactive or proactive (Gasiorek, 2016b). The literature further suggests that most adjustment in communication is automatic or unconscious (Tomsha & Hernandez, 2010) unless there are obvious intervening factors such as when the listener discloses that they are unable to comprehend the speaker's message (Gasiorek, 2016b). Using the CAT framework, adjustment in communicative behaviour can be explained by considering "personal, situational, and cultural circumstances" (Tomsha & Hernandez, 2010, p. 469) that might influence an individual's perception, evaluation and consequential attributions (e.g., personality, competence, intelligence, friendliness) of a CP (Gasiorek, 2016b).

Personal, cultural, and situational factors interact in complex ways to influence accommodation in communicative interaction. Age and generational gaps (Hummert, 2019; Soliz & Giles, 2014) gender (Giles et al., 1973; Harwood et al., 2006) relationship (Harwood et al., 2006; Soliz & Giles, 2014), roles, power (Street, Jr., 2010; Tomsha & Hernandez, 2010), social status (Giles et al., 1973; Soliz & Giles, 2014) and affiliation with various social categories (Palomares et al., 2016), socio-cultural norms (Giles et al., 1973; Harwood et al., 2006; Simmons-Mackie, 2018), are among the factors that significantly influence accommodation. For example, an individual's desire to portray themselves as the more powerful CP, is more likely to lead to divergence in communicative behaviour (Tomsha & Hernandez, 2010). However, when such differences in behaviour associated with role and power differences (e.g., interviewer-interviewee, doctor-patient, parent-child interactions) are mutually attempted and accepted, it is considered as 'complementarity' and is perceived favourably (Street, Jr., 2010). Prior communicative experiences in communication as well as expectations (Dragojevic et al., 2016) of how the other interactant will behave also impact adjustment in communicative behaviour for both individuals and groups. For example, in relation to pWA, the observed association between broader CP perceptions of the personality (e.g., ability to make friends, intelligence and confidence) of pWA with their perceived non-fluency (e.g., Khvalabov, 2019) might offer an alternative explanation for the reduced skill in communication observed among untrained CPs who have been exposed to pWA (Kagan et al., 2018). CAT also proposes that

the motivational processes surrounding communication may be altered during the course of the interaction and may be based on the ongoing communicative experience (Dragojevic et al., 2016; Gallois et al., 2016). For example, negative comments made during interaction can prompt an interlocutor to diverge in their style of communication (e.g., Bourhis & Giles, 1977). Another factor that impacts adjustment is the *ability* of a person to adjust their communicative behaviour to the extent desired or intended (Dragojevic et al., 2016). A number of factors constrain the ability of an individual to adjust their communicative behaviour including the communicative repertoire, physiological constraints and the medium of communication (Dragojevic et al., 2016). In relation to aphasia, the linguistic and communicative abilities of the individual may constrain their ability to adapt their communication to resemble that of typical communicators. In additional environmental constraints might further impact their ability to participate in interaction with typical communicators.

When adjustment occurs during communicative interaction, it occurs to varying extents and by use of various strategies for adjustment. The appropriateness of the extent of the adjustments made by the speaker depends on how they are perceived by the speaker.

#### **4.1.3 Perceived extent of communicative adjustments**

Interlocutors evaluate the speakers adjustment in communicative behaviour against what they perceive to be appropriate (Dragojevic et al., 2016; Gasiorek, 2016b). CAT suggests that receivers and third-party listeners consider three features of the speaker when evaluating and attributing the speaker's motives. These include— the speaker's ability, the effort and external social, contextual and situational pressures that might compel the speaker to act in a specific manner (Giles et al., 2010). The receiver's perceptions and evaluations of the speakers communicative behaviour result in speaker attributions that may inform future interactions (Dragojevic et al., 2016; Gasiorek, 2016b). When evaluating the extent of adjustment of communicative behaviour, a receiver may perceive the adjustment to be appropriately *accommodative*, *overaccommodative* or *underaccommodative*.

*Overaccommodation* entails adjustments to communication behaviours that overshoot the adjustment required to improve the communicative effectiveness and the communicative experience (Gasiorek, 2016a; Giles et al., 2010). Individuals may over-attune to the style of the CP or over-simplify the content and delivery of information exchange more than that required (Giles et al., 2010). Overaccommodation often stems from good intentions on the part of the CP, but can be perceived by the receiver as demeaning, stereotyping or patronising (Tomsha & Hernandez, 2010). Overaccommodation is often associated with negative outcomes and stereotypes and is commonly seen in interactions between younger family members and older adults (Gasiorek, 2016a), between people of different socio-linguistic and ethnic groups, and people with cognitive impairments (Harwood et al., 2006). In intergenerational communication interactions, the younger speaker may use strategies such as 'elderspeak' (Kemper et al., 1998) which is the use of slow rate of speech, simplified syntax, expressive intonation with the intention of enhancing the older persons ability to comprehend the message they are trying to convey (Gasiorek, 2016a; Harwood et al., 2006). For older people, overaccommodation can be increasingly harmful when experienced within the family around whom they expect to feel respected, safe and free



of the negative stereotyping (Harwood et al., 2006). For example, when healthy older people are addressed with an intentionally caring yet unwittingly patronising style of communication (Giles et al., 2010), often higher than the 'elderspeak' register (Kemper et al., 1998) by their children or grandchildren, they may experience a reduced sense of self. The impact of overaccommodation on the sense of self of an individual, may result in reduced communicative participation (Tomsha & Hernandez, 2010). For people with cognitive impairments as well, the overuse of elder-speak, which may be perceived as infantilizing, and in CAT as overaccommodation, may lead to resistiveness to care (Williams et al., 2009). While the consequences of overaccommodation depend on the way the receiver perceives both the actual adjustment and the motives behind it, it is most often perceived negatively.

*Underaccommodation* occurs when the individual fails to employ strategies to enhance the communicative experience or improve the communicative effectiveness by underutilizing accommodative strategies. Underaccommodation may be intentional or unintentional (Hamilton, 2010) depending on the motive. Intentional underaccommodation results when the speaker strategically underutilizes accommodative strategies with the intention of being unhelpful (Hamilton, 2010). This strategy is sometimes seen when speakers use non-inclusive language or features of speech such as not increasing the loudness when talking an older person who has difficulty hearing or not making eye contact, not paying attention to the interlocutor (Hummert, 2019). This behaviour is often associated with negative stereotypes surrounding ageing and disability. Unintentional underaccommodation results when the speaker is unable to accommodate (Hamilton, 2010) or unaware of the need to accommodate. For example, when a typical communicator engages with a PWA, the CP might maintain the verbal style of communication as they might not have the skills to attune to the needs of the pWA. Here, the PWA may experience this lack of adjustment in the turn of the CP as underaccommodation. Underaccommodation that occurs in the form of maintenance of behaviour or divergence in style (deviating from the style of the interlocutor) is often perceived unfavourably (Gasiorek, 2016a). Underaccommodation is also often seen in healthcare interactions, where healthcare providers have difficulty adjusting their communication to meet the communication needs of their patients especially those with a communication disability (Burns et al., 2017). Underaccommodation in verbal and non-verbal behaviour is most likely to result in negative communicative experiences, communication breakdown, increased social distance (*ibid*) and withdrawal from participation. The unfavourable experiences may additionally have a serious impact on the sense of self and sense of competence (Hamilton, 2010) for the person with the disability. Underaccommodation can therefore have negative impact on both the affective and cognitive functions of communication adjustment (Gasiorek, 2016a).

To fully understand the adjustments that occur in communication interaction, it is necessary to understand the way adjustments occur. We must also consider the underlying motivations and reasons behind these adjustments, the purpose they serve, the consequences that follow and the extent to which these adjustments are unconscious (Gasiorek, 2016b). The manner in which each strategy is employed, the motive behind the adjustment, and the consequence of the adjustment would determine if a strategy is accommodative or nonaccommodative.

## **4.2 Adjustment: How and When?**

The literature describes at least five “sociolinguistic encoding strategies” (Harwood et al., 2006, p.23; see also Dragojevic et al., 2016) within CAT that serve as a framework for understanding the patterns in communication between individuals. The strategies include (1) approximation strategies, (2) interpretability strategies, (3) discourse management strategies, (4) strategies for interpersonal control and (5) strategies related to emotional expression. Each of these strategies will be taken in turn in the discussion which follows. Each will be discussed in turn, using a hypothetical example of a doctor from North India in interaction with a patient from South India to illustrate the concepts.

### **4.2.1 Approximation strategies**

Approximation strategies function to either achieve solidarity with the interlocutor through *convergence* or dissociate from the interlocutor through *divergence* (Giles et al., 2010). Convergent strategies entail adjustments which result in communication behaviours which are more similar to those of the CP. Convergent strategies are therefore inherently accommodative in nature (Gasiorek, 2016b) and serve to reduce the dissimilarities between individuals in interaction (Dragojevic et al., 2016; Giles et al., 1973, 2010). Individuals adapt a range of “linguistic-prosodic-nonverbal” aspects of their communicative behaviour (Giles et al., 2010, p. 7) to seek social approval (Giles et al., 1973), show affiliation (Simmons-Mackie, 2018), demonstrate compliance, achieve enhanced communicative effectiveness, forge shared identity (Harwood et al., 2006) and favourable appraisal (Giles et al., 1973). Some of the ways in which convergent strategies are realised include adjusting the frequency of pauses and length of an utterance, rate of speech, tone of voice, vocal intensity, posture, accent, level of formality, information density, utilization of gestures (Giles et al., 2010). Convergence may be perceived as positive or negative depending on the circumstances (Tomsha and Hernandez, 2010). Individuals who expend more effort into utilizing convergent strategies to reduce the dissimilarities in communicative interactions are more likely to be appraised positively by their CPs (Giles, 1973; Harwood et al., 2006; Tomsha & Hernandez, 2010). In hypothesising about the application of CAT in Aphasia, Simmons-Mackie (2018) suggests that CPs in receipt of convergence as demonstrated by the speaker also are also more likely to have a positive communicative experience specifically in terms of their self-esteem and identity. Positively perceived communicative experiences have the potential to enhance dialogue (Tomsha and Hernandez, 2010). Convergence is not, however, always perceived as positive. Communicators who adjust their behaviours to be more like their interlocutor may sometimes be perceived to be patronising, ridiculing, or stereotyping. In a situation where convergent accommodation is perceived as ‘over-attuning’ or ‘overaccommodating’ by the CP, it can lead to a negative communicative experience (Tomsha and Hernandez, 2010).

**Table 4.2 Definition of approximation strategies**

|                          | <b>Definition</b>  |
|--------------------------|--|
| Approximation Strategies | Function to either achieve solidarity with the interlocutor or dissociate from the interlocutor by focussing on the linguistic aspects of communication. Three subtypes have been described: |
| Convergence              | entail adjustments which result in communication behaviours which are more similar to those of the communication partners.   |
| Divergence               | entail adjustments which result in communication behaviours which are more different to those of the communication partners.   |
| Maintenance              | No adjustment in communicative behaviours. No effort is made to attune to the style of the communication partners.   |

Divergent strategies are nonaccommodation strategies which serve to portray a distinct difference between individuals in interaction (Dragojevic et al., 2016). People compare themselves to their interlocutors across attributes that are of importance to them, such as abilities, wealth, or status and, as a result, they consciously or unconsciously<sup>2</sup> accentuate the variability in their verbal and non-verbal communication from that of their CPs (Giles et al., 2010). For example, when a patient from the South Indian state of Karnataka speaks to a doctor from the North Indian state of Delhi in English, the North Indian doctor may respond in Hindi or intersperse a few Hindi words into their English sentences to establish that she is a North Indian where the most spoken language is Hindi. Here the North Indian doctor diverges from the linguistic style of the South Indian patient. Divergent strategies of this sort function to preserve the identity of an individual or a group (Giles et al., 2010; Tomsha & Hernandez, 2010). Individuals who diverge in their communication style from that of their CPs are often perceived to be socially disapproving or hostile (Harwood et al., 2006; Tomsha & Hernandez, 2010).

Another strategy that can at times be perceived as failing to achieve solidarity with the CP and may therefore be perceived negatively by the recipient is that of *maintenance*. Maintenance refers to the act of continuing one's own style of verbal and non-verbal communication without adjusting it to attune to the CP (Dragojevic et al., 2016). Like divergence, maintenance also functions to preserve the identity of an individual or a group (Giles et al., 2010; Tomsha & Hernandez, 2010). That is, an individual may choose to not adjust their style of communication and instead continue to maintain the style of communication that they associate with the social category with which they identify. Interlocutors might put effort into adjustments where they feel there is benefit to doing so (Giles, 1973). For example, social approval might be considered as rewarding by some individuals (Giles, 1973; Simmons-Mackie, 2018). Sometimes both the speaker and interlocutor actively act to maintain their differences in a way that is stable, accepting and perceived positively by both. This is termed as complementarity (Jones et al., 1999).

#### **4.2.1.1 Descriptive features of Adjustment using approximation strategies**

There are ten distinct ways in which convergent and divergent adjustments in communication might occur which have been described in the literature (e.g., Dragojevic et al., 2016; Giles et al., 2010). As illustrated in Table 4.3 adjustment is described in terms

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<sup>2</sup> The term unconsciously in this context is used slightly differently to its typical use within neurology- here unconsciously refers to the unintentional nature of the adjustment in communication.

of the social value, the extent to which it occurs, whether a single or multiple features of communication are adjusted, whether short-term or long-term and the degree of symmetry.

**Table 4.3 Descriptive Features of Adjustment**

| Type         | Definition   |
|--------------|--|
| Upwards      | refers to an individual's convergence or divergence to the more standard or socially valued variety of communication being used. |
| Downward     | refers to an individual's convergence or divergence to the less prestigious variety.   |
| Full         | refers to an individual's complete convergence or divergence to that of the interlocutor.  |
| Partial      | refers to an individual's partial convergence or divergence to that of the interlocutor.   |
| Multimodal   | results when communicative adjustment occurs on multiple aspects   |
| Unimodal     | results when communicative adjustment occurs on only a single aspect   |
| Short-Term   | Refers to accommodation that occurs only during a few communicative interactions.  |
| Long-Term    | Refers to accommodations that are maintained for a long duration, across multiple communicative interactions                     |
| Symmetrical  | Results when the adjustment between both communication partners is mutual or reciprocal.   |
| Asymmetrical | Results when the communicative adjustment initiated by an individual is not reciprocated by the communication partners.          |

Sources:(Dragojevic et al., 2016; Giles et al., 2010).

Returning to the example of the North Indian doctor and the South Indian patient, if the doctor switches completely to the use of Hindi vocabulary, this would be full divergence, and may carry the connotation of a particular political affiliation. Given the status of Hindi in the North of India, it may be considered a case of upward adjustment. The nature of adjustment depends on the motivation for adjustment and other contextual factors. For example, Singh and Pauranik (2017) suggest that in interactions involving pWA in India, significant others may maintain their preferred verbal style of communication due to the low acceptance of non-verbal strategies. However, in their study they found that some typically speaking partners chose to use non-verbal strategies during communication interaction with their aphasia partners. In these instances, the CP partially converges 'downward' (away from the preferred social ideal of verbal communication) with the purpose of enhancing the coherence meaningfulness of communication. When it comes to convergence, full convergence is typically evaluated more positively than partial convergence (Giles et al., 2010). The literature exploring communication interaction in pWA in India suggests that when they increase their use of non-verbal communication styles, their significant others also demonstrate an increase in non-verbal communication during the interaction (Rautakoski, 2011; Singh & Pauranik, 2017).

Adjustment in communication based on the modality is termed as *unimodal* when adjustment occurs on only one aspect of communication (for example, only in terms of

intonation), and *multimodal*<sup>3</sup> when adjustment occurs on multiple aspects (for example, across intonation, accent, and use of gesture). Multimodal adjustment can also involve convergence on some aspects and divergence on other aspects being employed simultaneously (Dragojevic et al., 2016). For example, significant others of pWA may partially converge towards the slow rate of speech of a PWA, but they might maintain their verbal style rather than using gestures and pointing during their interaction with the PWA. The duration of the accommodation behaviour is another aspect based on which accommodation might vary. While *short-term adjustment* occur only during a few communicative interactions, termed *long-term adjustments* are maintained for a long duration, across multiple communicative interactions and can often lead to permanent changes to the individual's or group's style of communication (Dragojevic et al., 2016).

Adjustment occurs continuously in interaction, and both interlocutors adjust or choose to maintain their communication style. Adjustment is grounded in ongoing actions as they play out and unfold during communication interaction (Gallois et al., 2016). CAT suggests that convergence is often directed towards the interlocutor with higher status or power (Dragojevic et al., 2016). In interactions involving people with a communication disability, the potential for asymmetry in the adjustments made by the interlocutors are heightened, owing to constraints in the ability of the PWA to converge to the style of the typically speaking partner. In such asymmetrical interactions, the lack of adjustment is unintentional (Gasiorek, 2016a) and often unavoidable.

#### 4.2.2 Non-Approximation Strategies

Non-approximation strategies (Coupland et al., 1988) attend to the meaningfulness and the effectiveness of the communicative-interaction by focussing on the transaction and interaction aspects of communication. As illustrated in Table 4.4 there are 4 types of non-approximation strategies, each of which will be discussed in turn.

**Table 4.4 Non-approximation strategies**

|                              |   |
|------------------------------|---|
| Non-approximation Strategies | Strategies that attend to the meaningfulness and the effectiveness of the communicative-interaction by focussing on the transaction and interaction aspects of communication. |
|                              | <b>Definition</b>   |
| Interpretability strategies  | entail adjustments to enhance the ability of the interlocutor to comprehend the information content of messages exchanged during the communicative interaction.               |
| Discourse maintenance        | entails adjustments to communication behaviours that function to facilitate engagement in meaningful interaction  |
| Interpersonal control        | entails adjustments to communication behaviours that serve to establish the role, relative power, and control in a relationship and in conversations.                         |
| Emotional expression         | entails adjustments to communication behaviours that result from concern about the feelings and emotions of the conversation partners.  |

*Interpretability strategies* entails adjustments to enhance the comprehensibility of the messages exchanged during communication— they relate to the interpretive

<sup>3</sup> The term multimodal in this context is used slightly differently to its typical use within speech and language therapy

(comprehension) abilities of the CP as perceived by the speaker (Gasiorek, 2016b; Harwood et al., 2006). Interpretability strategies are accommodative if they are employed to ensure the listener is able to comprehend what is being communicated by the speaker (Dragojevic et al., 2016; Gasiorek, 2016b). For example,, simplifying speech by reducing the complexity of the vocabulary and grammar, increasing vocal intensity, etc. (Dragojevic et al., 2016; Harwood et al., 2006). The forms of interpretability strategies that hinder the ability of the CP to understand are nonaccommodative. Non-accommodative interpretability strategies include the use of foreign jargon, using a language that is unfamiliar, increased rate of speech, etc. (Gasiorek, 2016a). Sometimes speakers over-use interpretability strategies when they interact with people belonging to a different group based on perceived limitations and general stereotypes. These adjustments are perceived to be over-accommodative and are evaluated negatively. For example, the over use of gestures and exaggerated articulation when native speakers have been observed to use when engaging with non-native speakers (Zuengler, 2010), the increased loudness of voice used by people during interactions with older adults (Gasiorek, 2016a; Harwood et al., 2006; Tomsha & Hernandez, 2010).

*Discourse management strategies* focus on the macro-conversational needs of the CP (Dragojevic et al., 2016; Gasiorek, 2016b). Accommodative discourse management strategies function to facilitate engagement in meaningful interaction. Accommodative strategies include face management (Harwood et al., 2006), choosing a topic of mutual interest and relevance to the conversation partners personal factors (e.g., ethnicity, age, profession) and turn-taking in conversation (Dragojevic et al., 2016; Giles et al., 2010; Harwood et al., 2006). For example, when a younger person initiates a conversational topic about the past with an older person, the younger speaker, steers the conversation in the interlocutors area of expertise to create an opportunity for the older person to participate and contribute to the communication interaction (Harwood et al., 2006). The use of reduced rate of speech and use of keywords as response options (Singh & Pauranik, 2017) during interactions with a PWA to ensure the PWA can meaningfully participate in the interaction. Discourse management strategies serve to create and maintain a balance between the individuals involved in the interaction as members of the same or different groups (Harwood et al., 2006). They are the broadest, most central strategies through which decisions about the discourse, including the topics introduced, positionality, the turns taken and communication breakdown and face management are managed (Jones et al., 1999). While discourse management strategies and Interpretability strategies often work together to facilitate effective and meaningful communication, sometimes speakers have to make the decision about choosing between 'interpretability and coherence' or 'face management' (Jones et al., 1999). For example, a speaker may reduce his rate of speech to ensure the interlocutor can understand his message and thereby engage meaningfully. Similarly, the use of questions for clarification and written keywords for people with communication difficulties, can both help to enhance the comprehensibility and create opportunities for the interlocutor to contribute to the interaction. Nonaccommodation through the use of discourse management strategies occurs when the speaker chooses irrelevant or unfamiliar topics for discussion or creates an imbalance in turn-taking thereby making participation in conversation more difficult (Gasiorek, 2016a). Nonaccommodative discourse management strategies may sometimes be seen when family of people with communication disorders are at hospital visits. The doctor may

unintentionally employ nonaccommodative discourse management strategies by communicating directly with the caregiver without providing the person with the communication disability an opportunity to contribute to the conversation. If the caregiver in turn speaks on behalf of the person with communication disorder, the caregiver is also said to be employing nonaccommodative discourse management strategies. This phenomenon can also be seen during interactions with pWA and their significant others. Significant others of pWA have reported that they sometimes use only polar questions, where the can be answer as 'yes' or 'no' during interaction with the pWA (Singh & Pauranik, 2017). The nature of interaction described in the case of the pWA and their significant others is often need based and dominated by the significant other. Carers of pWA have also been observed to 'speak for' their aphasic partner (Fabus et al., 2016), possibly with the intention of maintaining the flow of the communication interaction especially when interacting with a third person.

*Interpersonal control strategies* serve to establish the role (Dragojevic et al., 2016), status differentials (Zhang & Pitts, 2019), relative power and control in a relationship and in conversations (Harwood et al., 2006). Control strategies often result from social and cultural norms associated with established hierarchical structures and formal institutional roles and associated expectations (Zhang & Pitts, 2019). Control strategies are observable in communication interactions within families belonging to cultures that have structured roles, relations and hierarchies (Harwood et al., 2006). Interpersonal control strategies can be used positively to allow an interlocutor the freedom to leave a role. In interactions involving members of the same group, it can be used positively to retain the membership of the interlocutor within the group and thereby reduce any uncertainty (Jones et al., 1999). For example, when a speaker explicitly acknowledges the shared expertise of a CP. In pWA, this can be observed, when a significant other acknowledges the competence of the PWA and facilitates their contribution in interactive discussion and shared decision making. Interpersonal control strategies can also be used negatively. Often the illegitimacy in the assumptions of intergroup hierarchy (Giles et al., 2010) can also be a factor influencing interpersonal control behaviours during communication interaction. Some of the ways in which control strategies are utilized include patronizing talk, interruptions, silence, etc., (Dragojevic et al., 2016; Harwood et al., 2006). Interpersonal strategies that portray illicit power or status and often at the cost of depriving recipients of their status or power are considered to be nonaccommodative (Gasiorek, 2016a).

*Emotional expression strategies* attend to the feelings and emotions of the recipients. Accommodative emotional expression strategies are employed by interactants when they are concerned about the feelings and emotions of their conversation partners (Dragojevic et al., 2016). Reassuring and comforting the conversation partner are some of the ways in which emotional expression strategies are utilised (*ibid*).

#### **4.3 CAT and family communication: The family as an intergroup**

Families comprise of people of different ages, gender, abilities, interests, personalities. Each member of a family unit has their own identity in addition to the shared identity of the family. When people communicate, all of their identities and characteristics come into play (Abrams, 2019). As described in 4.1.2, various factors influence the communication style and the nature of adjustment during communication interaction. People often adjust

their style of communication based on their membership within a social category and what they perceive to be the social category of the interlocutor. Families often have to simultaneously negotiate relational and identity issues during their communication interactions (Harwood et al., 2006), as there is the idea that the family unit is a single, safe, in-group with shared identity. However, intergroup communication features are observed in interactions of family members belonging to different age groups, having different abilities, and in some cases where cultural and racial differences are relevant (Harwood et al., 2006; Palomares et al., 2016). In some families with different groups (gender identity, sexual orientation, abilities, ethnicities), certain controversial topics are avoided to preserve pleasant dialogue. However, in doing so, families risk “positive relational progression” (Palomares et al., 2016, p. 140). In another example, Palomares et al., (2016) describe how accommodation may be observed when an adult speaker reduces their rate of speech and simplifies their choice of lexicon when communicating with a toddler. Here, the accommodations made are based on the assumed level of cognitive and linguistic abilities associated with toddlers. In this example, the adult speaker identifies with a group of adults whose cognitive and linguistic abilities are generally assumed to be more advanced than that of the listener who is affiliated with a group of toddlers. The adult speaker and the toddler could therefore be said to be belonging to two internally differentiated groups despite being part of the same family. An ‘Intergroup’ in communication accommodation theory refers to the presence of one or more interlocutors or CPs that belong to a different social category or where at least one member assumes their status as belonging to a different social category from that of their CP(s) (Palomares et al., 2016). Differences in the intergroup assumptions may result in overaccommodation or under accommodation. For example, pWA and their conversation partners may be considered as two internally differentiated groups. The perceptions about each group may vary for members of the respective groups and for their interlocutors. The typically speaking communicator may assume that pWA have difficulty comprehending and may use a slow rate of speech, simplified vocabulary. It could be the case that the PWA can comprehend very well but has a difficulty expressing oneself. In such situations the CPs intended convergence and use of interpretability and discourse management strategies to support effective communication may be perceived unfavourably to be patronizing and demeaning and may therefore be perceived as over accommodating. Patronizing talk could therefore be damaging for recipient CPs who would indeed want to be “nurtured communicatively” (Giles & Ogay, 2007, p. 302). The consequences of accommodation therefore extend to the realm of self-esteem in addition to the social and cognitive consequences.

Communication experiences influence social relationships which in turn have an effect on the sense of self (Dragojevic et al., 2016). Inadequate accommodation and excessive accommodation can both have unintended negative consequences for the recipients (Dragojevic et al., 2016; Gasiorek, 2016a). Adjustments in communication interaction that are facilitative in nature have demonstrated improved shared pleasantness during interactions involving pWA (Croteau et al., 2018). Positive experiences during communication interaction can influence the nature and extent of participation in following interactions. Communicative experience is therefore of significant importance. CAT serves as an explanatory and a predictive model (Dragojevic et al., 2015; Harwood et al., 2006) to explore shifts and patterns of adjustment in communication between family



members as well as well as in relation to their broader socio-cultural context (Gasiorek, 2016b). It could be suggested that the cause for the non-optimal levels of adjustment could be associated with the what the significant other perceives to be the communication needs of the PWA. However, it has been suggested that partners of pWA are not fully aware of the communication needs and challenges of the PWA (Rautakoski, 2011). Increased awareness of aphasia and training on strategies for communication with pWA could therefore see changes in the nature and level of adjustment of the partners communicative behaviour, by way of optimal use of appropriate strategies to adjust and enhance the supportiveness of their communication behaviour.

#### **4.4 CAT as a tool for analysing conversational interaction**

CAT combines theories and constructs that explain adjustment in communication and interaction from across a range of scientific disciplines to offer a comprehensive tool to understand adjustment in communication across contexts (Gasiorek, 2016b). It has been regularly applied across disciplines from an interpretive focus, for qualitative analysis of discourse (Giles et al., 2010; Soliz & Bergquist, 2016). The benefits of qualitatively exploring and analysing ongoing conversations and interaction using CAT has been demonstrated (Gallois et al., 2016). Incorporation of considerations of individual and intergroup identity, the role of perceptions and evaluation of communicative behaviour, the simultaneous use of convergent and divergent strategies during adjustment of communication behaviour and the consequences of adjustment in communication interaction allow a unique and sophisticated perspective into the processes that underlie communication interaction that may not be possible with other theories of communication (Gasiorek, 2016b; Giles et al., 2010). CAT provides us with a comprehensive, although complex framework to analyse communication as it occurs and understand the underlying processes that prompt adjustment in communicative behaviours (Gallois et al., 2016). CAT allow us to capture 'moment to moment' changes in adjustment and relational identities occurring throughout the process, make links between perceptions, behaviour and consequences and in doing so presents a comprehensive analysis of accommodative and non-accommodative behaviour in communication (Gallois et al., 2016).

#### **4.5 Summary**

People adjust their ways of communication during interaction based on their CP. CAT would give us a lens into the adjustments that are already occurring when someone has aphasia and how those patterns of adjustment change when CPT is introduced. The integrated, cross disciplinary nature of the theory (Soliz & Bergquist, 2016; Soliz & Giles, 2014; Tomsha & Hernandez, 2010) and its broad openness to incorporate relational processes and contextual concerns surrounding communication at a micro and macro level are noteworthy characteristics (Giles et al., 2010). CAT provides a lens to researchers interested in exploring patterns of communication among family members in interpersonal individual, interpersonal group and inter-group socio-cultural contexts (Harwood et al., 2006). CAT therefore provides a logical framework of relevance to the current study, through which to identify patterns of communication and adjustments in interactions (Soliz & Bergquist, 2016) within a familial dyad (involving pWA and their primary CPs), provide causal explanations (Harwood et al., 2006) for these patterns and for the changes following CPT. While the specifics of its methodological application to the current study will be

discussed in Chapter 6, the rest of this chapter provides an overview of the key aspects of the theory.

## **Section Two**

## 5 Methodology

This chapter describes the methodological and philosophical underpinnings that have guided the planning, design, and execution of this study. The approaches used to guide the study were preceded by the inquiry which led to this study. Section 5.1 describes the research questions and the objectives of this study. The methodology for the study is described in section 5.2, which describes the use of mixed methods as the methodological paradigm (see section 5.2.1) and pragmatism as the philosophical paradigm that guides this study (5.2.2). An overview of the study design (see section 5.3) and the steps taken to ensure quality and rigour (see section 5.4) throughout this study are then described. The chapter ends with a summary of the methodology used in section 5.5.

### 5.1 Aims, research questions and objectives of the study

The overall aim of this study was to explore the applicability and impact of brief communication partner training (CPT) for primary caregivers of people with aphasia (pWA) within the complex sociocultural context of India. This exploratory, context-sensitive research was carried out in two phases. The aim of phase one was to explore the domestic challenges of pWA and their primary communication partners (CPs) in the Indian context and the adaptations that would need to be made to a CPT programme to enhance the relevance and appropriateness, through ethnographic methods, within the Indian context. Following this, a second phase aimed to explore the applicability and impact of a single, generic, programmatic (manualised) intervention for the primary CPs of pWA in India.

The inquiry that prompted this study was one that developed from the researcher's practical experiences within the context being studied. The practical problem once identified, was reflected upon, discussed with researchers in the field of aphasia, probed theoretically by reviewing of the existing literature, and an apparent evidence gap was identified. The study that has since evolved has an objective to expand the evidence base on CPT to the novel complex context of India. The research questions developed, stemmed from identified gaps in the evidence base surrounding CPT and aphasia rehabilitation in the Indian context. This study was guided by the overarching research question: Is CPT applicable to pWA and their primary caregivers within the complex sociocultural context of India?

This overarching question is underpinned by the following sub-questions:

1. What linguistic and cultural adaptations are required to make CPT materials relevant for the Indian context?
2. Is CPT acceptable to families and pWA in the sociocultural context of India?
3. What is the impact of training primary caregivers of pWA as Communication Partners, in terms of participation and wellbeing within the family unit, in the Indian context?

The main objective of the study is to broaden the evidence base of CPT approaches to the rehabilitation of pWA in a majority world country such as India; four objectives were identified as needing to be met.

1. To adapt the CONNECT Communication Partner Scheme's partner training modules for the primary caregivers of pWA in India by identifying context-specific training and intervention needs of pWA and their family members
2. To analyse the efficacy of CPT for primary caregivers in facilitating successful interactions between pWA and their caregivers.
3. To analyse the impact of CPT for primary caregivers on the quality of life of the pWA.
4. To analyse the impact of CPT for primary caregivers on the sense of coherence of the primary caregivers.

## 5.2 Methodology

This study used a mixed methods approach following a multi-phase design including mixed and qualitative phases. In a multi-phase design, each phase was designed to inform the next phase to achieve a broader objective (Kaur, 2016, p. 94). Each phase of this study links informatively to the next phase with the overarching objective of exploring the feasibility and impact of implementing CPT in the rehabilitation of pWA in India.

Stroke and aphasia are experienced differently by different people (P. Clarke, 2009). We see some people distraught by the impairments following the stroke, we also see those who can cope better whose sense of well-being is minimally affected despite the changes following the stroke. Understanding these paradoxical observations is not possible through strictly objective measures (P. Clarke, 2009). Research in aphasia has demonstrated that qualitative methods are better suited to capture a more holistic representation of the psychosocial consequences of aphasia (Sorin-Peters, 2004a). However, subjective measures and strictly qualitative studies are unable to provide us with information on the 'how many' and 'how much' questions that are important when carrying out studies exploring the impact of an intervention. When carrying out research intended to expand the evidence base of an intervention and strengthen the scholarship, it is important to collect, analyse and publish data that can be compared with other studies. It is equally important to understand the factors that contribute to or influence these findings, or we might risk misinterpretation and application of the findings in the real world. Quantitative and qualitative studies in the stroke and aphasia literature have both made a significant contribution to both understanding the impact of the impairment (P. Clarke, 2009) and understanding the impact of interventions. However "when seeking to understand the meaning of a chronic disabling condition in later life from a social psychological perspective, a mixed-method approach is likely to provide the most comprehensive picture"(P. Clarke, 2009, p.293). Integrating the quantitative and qualitative data and following a mixed method agenda is therefore recommended (*ibid*). The methods chosen to pursue the study's aims must therefore acknowledge and incorporate contextually specific data that is crucial to understanding the cultural adaptations needed to be made to the CPT intervention as well as to analyse the data and interpret the findings from the study. In addition, the method must be able to effectively answer the inquiry regarding the effectiveness and the impact of the CPT intervention being explored. Methods were chosen specific to the nature of the enquiry with different designs chosen based on the purpose (Greene, 2008)—to understand a phenomenon (phases one and two) and to test a hypothesis (phase two). With the objective to expand the evidence base surrounding the impact and effectiveness of CPT on communication and wellbeing, it was important to be

able to quantify the impact of CPT on the participation and quality of life (QOL) of the pWA and the support in conversation and sense of coherence (SOC) of the primary caregivers. McCusker and Gunaydin (2015) stipulate that implementation of only a quantitative design is insufficient to explore the effectiveness of research involving human services. Qualitative research in the initial phases supports quantitative components embedded in later phases and is applicable to shed light on the validity of the project and intervention addressed (McCusker & Gunaydin, 2015). A mixed methods approach allowed for the impact of CPT to be quantified and contextualized, going some way to provide a rich, comparable, comprehensive description and explanation for the findings.

A mixed method approach was thus used in this study as it purposefully and rigorously integrates both qualitative and quantitative methods, drawing on the strengths of both methods, to ensure a more real-world representation of the findings from this study (Kaur, 2016). Such approaches are increasingly being advocated as vital elements intrinsic to outcomes research (McCusker & Gunaydin, 2015) and specifically research in stroke (P. Clarke, 2009). Further, with the increased complexities of public health service and delivery, a thorough understanding of the context under study would be essential when devising and implementing an intervention approach for the effective rehabilitation of people within the context being studied (McCusker & Gunaydin, 2015). An integration of the two methods was chosen with the aim that it would yield data which would provide a more complete understanding of the overall applicability and acceptability of CPT approaches within the Indian context which is the primary focus of this research.

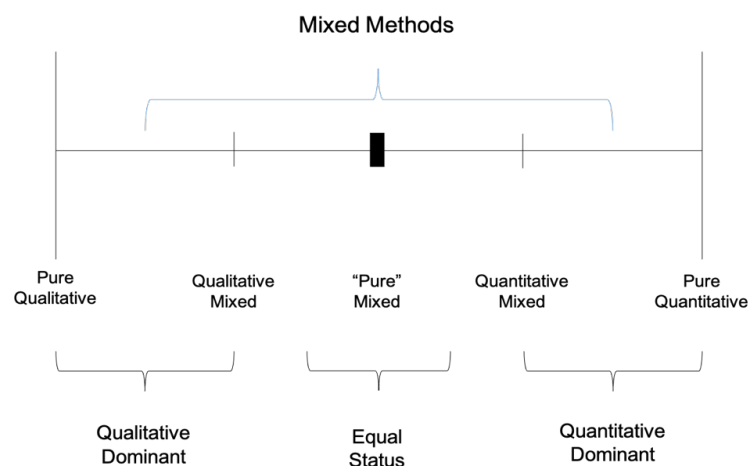
Methodology is often a reflection of the researchers epistemological, ontological, axiological views and values (Feilzer, 2010). Researchers may find themselves working along the continuum of qualitative (constructivist or interpretivist paradigm) to quantitative (positivist or postpositivist paradigm) methods (Johnson & Onwuegbuzie, 2007), with multiple or changing (Creswell & Tashakkori, 2007) paradigmatic or a-paradigmatic stances (Hall, 2013). A researcher's views and values can be influenced by the professional circles one engages with, culturally transcendent traditions of conducting research, knowledge, and experience of a specific paradigm. Many health-science researchers work from a practice perspective (Creswell & Tashakkori, 2007), where they let the inquiry guide the chosen method. Some researchers may choose to use quantitative methods where the inquiry demands a "deductive explanatory analysis under standardized objective conditions" (P. Clarke, 2009). They might see qualitative methods as appropriate "to explore research questions inductively in uncontrolled natural contexts" (P. Clarke, 2009). Symonds and Gorard (2010) suggest focussing on the quality of the research techniques rather than researcher identities. It must therefore be acknowledged, while my professional and academic circles may influence my views and values, the chosen methodology was with thorough consideration of the research questions, the subject explored, and the 'research-methods' literature.

### **5.2.1 Mixed Methods as a methodological paradigm**

The field of mixed method research is complex, evolving and requires one to be knowledgeable, proficient and competent in its theoretical and practical aspects (Tashakkori & Teddlie, 2010). Mixed methods research, like other paradigms, has both adherents (e.g., Cameron & Miller, 2007; Johnson & Onwuegbuzie, 2007; Morgan, 2014)

and critics (Cameron, 2011), and requires a clear understanding of the philosophical underpinning to inform the choice to use this methodological approach. Methodological decisions cannot be made devoid of philosophy (*ibid*). Debates about the sensibility of combining and mixing philosophical and methodological frameworks are one the most critiqued aspects of mixed methods (Greene, 2008). Clark and Ivankova (2015) suggest novice mixed method researchers use a guide to facilitate their ability to conduct and publish their mixed method research.

Johnson and Onwuegbuzie (2007) describe the continuum along which mixing of research methods occurs with purely mixed (equal-status) methods at the centre and purely qualitative and purely quantitative methods forming the two ends of the continuum respectively. They describe the centre of continuum as representative of mixed method research (MMR) that equally uses qualitative and quantitative methods to address almost every question that forms the inquiry. MMR that falls towards the qualitative end of the continuum, termed qualitative dominant and symbolised as QUAL+quan involves reliance on qualitative approaches (constructivist-poststructuralist views), while also recognising the value of involving a quantitative data, methods and analyses when addressing most research questions (*ibid*). When the nature of mixing involves reliance on quantitative approaches (postpositivist views), while also recognising the benefit of integrating qualitative methods in the research process, it is considered quantitatively dominant and is symbolised as QUAN+qual (*ibid*). In this study, QUAL+quan methods are used with qualitative methods used alone in phase one and qualitative and quantitative methods used in phase two. It important for mixed method researchers to be transparent and detailed in the reporting of the nature of mixed methods used (Brown et al., 2015).The presentation of the findings from the study also follows a mixed-representational approach as recommended by Greene (2008).



**Figure 5.1 Graphical Illustration of the three research paradigms including the mixed-method continuum. Adapted from Johnson and Onwuegbuzie (2007).**

**Table 5.1 Paradigmatic Stances in Mixed Method Research from Cameron (2011, p. 101).**

| Paradigmatic Stances           | Position taken  |
|--------------------------------|---|
| a-paradigmatic stance          | For many applied studies in real world settings, paradigms are unimportant  |
| Substantive theory stance      | Theoretical orientations relevant to the research being undertaken (eg critical race theory, attribution theory) are more important than philosophical paradigms  |
| Complementary strengths stance | MMR is possible only if the different methods are kept as separate as feasibly possible so that the strength of each paradigm is maintained   |
| Multiple paradigms             | Multiple paradigms may serve as the foundation for MMR. In some MMR designs a single paradigm does not apply  |
| Dialectic stance               | Assumes all paradigms offer something and that multiple paradigms in a single study contributes to a better understanding of the phenomenon being studied   |
| <b>Single paradigm stance</b>  | <b>Initially formulated to provide the philosophical foundation for MMR- sometimes referred to as the “alternate paradigm stance” (Greene, 2008). Examples include: pragmatism; critical realism and; transformative paradigm</b> |

Source: Adapted from Teddlie and Tashakkori (2010: 14-16).

Mixed methodologists suggest that paradigms and philosophical stances are important to consider lest the mixed methodologist researcher risks being “insufficiently reflective” (Greene & Caracelli, 2003, p. 107). Choosing a paradigm under which to conduct research is not by way of ‘free choice’ but by careful examination of its underlying assumptions and the researchers own views of how the world must be studied (Cameron, 2011). Mixed method researchers (MMR) appear to take up a range of paradigmatic stances. This study has been approached by taking a *single paradigm stance*. Table 5.1 contrasts this stance with the different stances described by Teddlie and Tashakkori (2010) as presented by Cameron (2011) in her article recommended as a guide for novice mixed method researcher’s.

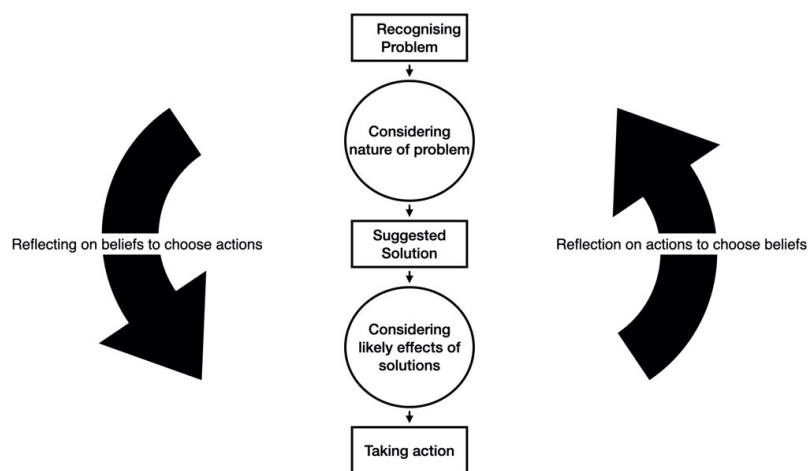
### 5.2.2 Pragmatism as a philosophical paradigm

A pragmatist approach was used, taking a single-paradigmatic stance to guide this study. The researcher working under a pragmatist paradigm, chooses a method that they believe will work best to answer the questions that guide the study. The method is chosen following careful reflection on the ‘why to’ and ‘how to’ questions of research—The focus is therefore both on the goals of the research and the steps taken to achieve those goals (Morgan, 2014). The chosen method is considered effective if it fulfils the purpose of the study (Kaushik & Walsh, 2019). Pragmatism is therefore sometimes criticised on its lack of ability to justify the choice of methods (Hall, 2013). Hall (2013) argues that researchers can determine the suitability of the chosen method of research only once it is implemented. There are often critics about the eclectic nature and pluralism of the pragmatic philosophy owing to its stronghold in mixed methodology (Cameron, 2011). Some critics consider pragmatism as being the easier option, one that is less disciplined and lacking in its adherence to a specific paradigm (Simmons-Mackie & Lynch, 2013). The lack of informed philosophical justification along with a tendency to view pragmatism as the approach that exclusively centres around “what works” has hampered its scholarly image. Pragmatism has a strong philosophical underpinning that focuses on solving practical problems in the real world (Feilzer, 2010; Kaushik & Walsh, 2019). The philosophy of pragmatism however, extends beyond ‘problem solving’ (Morgan, 2014). Pragmatism is “a doctrine of meaning, a theory of truth” (Denzin, 2012, p. 81). It does not focus on obtaining a truth or reality



(Kaushik & Walsh, 2019), but accepts the existence of “singular and multiple realities” (Feilzer, 2010, p. 8). Pragmatists believe that realities are associated with situational actions and consequences (Denzin, 2012) and these realities are subject to change with changing circumstances (Morgan, 2014). However, such traditional philosophies that underpin the pragmatic paradigm, advocated for by proponents such as John Dewey appear to be often missed out.

Pragmatists like Dewey viewed life as being inseparable from social, emotional and contextual processes, and therefore relied on a “process-based approach to knowledge” (Morgan, 2014, p. 1047) that was defined by the inquiry (Hall, 2013). Dewey’s model of inquiry is illustrated in figure 5.2. The pragmatic paradigm, therefore guides mixed methodologists to use creative ways to enhance the comprehensiveness of a study by adding on breadth and depth to traditional methodologies and intelligently integrating quantitative and qualitative methodologies. The singular, multiple, and changing reality perspective implies that the findings from a study are true to the context (temporal, personal, emotional, social, environmental) from which they are obtained, and that they may vary under different circumstances. This suggests the need to analyse observable and calculable results from a study with consideration of the contextual factors, which provides a foundation for mixed method designs. Pragmatic philosophy therefore encourages mixed-method researchers to acknowledge the distinctiveness and limitations of both quantitative and qualitative methodologies in relation to their individual ability to explore the inquiry studied and instead maximise on the benefits of mixing the two methodologies to resultantly produce rich, quality research. Situated around the middle of the paradigm continuum (Kaushik & Walsh, 2019), pragmatism allows a broadly inclusive and acceptable rhetoric. In relation to studies exploring the effectiveness of an intervention, such as this study, the views, values, and beliefs associated with pragmatism, therefore, provide a foundation for the use of mixed methods in such studies. Table 5.2 illustrates how Dewey’s step wise approach to inquiry as summarised by Morgan (2014) is applied to this study.



**Figure 5.2 Dewey’s Model of Inquiry (adapted from Morgan, 2014, p. 1048)**

**Table 5.2 Applying Dewey’s step wise approach to inquiry to the CPT-In study**

| Dewey’s step wise approach to inquiry   | CPT-In Study  |
|---|---|
| 1. Recognizing a situation as problematic;  | Impetus of the study: Recognition of reduced participation and access to communication and rehabilitation opportunities for people with aphasia in India.   |
| 2. Considering the difference it makes to define the problem one way rather than another; | Considering the problem in relation to the existing literature on aphasia rehabilitation in the Indian context, the existing literature on approaches focussing on enhancing participation and well-being, consideration of the cultural context prior to framing the aims and objectives of the study.                       |
| 3. Developing a possible line of action as a response to the problem                      | Applying principles of best practice and extending the evidence base of CPT to the complex sociocultural context of India by way of multiphase mixed method study.  |
| 4. Evaluating potential actions in terms of their likely consequences                     | Explore the applicability of CPT-In for primary caregivers of people with aphasia within the complex sociocultural context of India & its impact on communication and well-being for pWA and their CPs. Use of an explanatory and predictive framework—CAT to understand the actual impact of CPT on communicative behaviour. |
| 5. Taking actions that are felt to be likely to address the problematic situation         | Scaling up and implementing CPT-In in the Indian context as a future clinical implication of this study.  |

Adapted from Morgan (2014, p. 1047)

Pragmatism is an approach that builds on knowledge, sparks creativity and generates rich, comprehensive findings with an end goal to solve an empirically considered real world problem requiring some methodological and philosophical pluralism along different points of a continuum (Onwuegbuzie & Johnson, 2006). The philosophical and methodological underpinnings of mixed method research allow the researcher to combine “the power of stories and the power of numbers” (Pluye & Hong, 2014). In public health, stories have the power to change policies, and statistics traditionally provide a strong rationale to make changes (Pluye & Hong, 2014, p. 30). Pragmatism can therefore result in findings that can steer changes that are beneficial to the stakeholders (Onwuegbuzie & Johnson, 2006) – pWA, their caregivers, clinicians, researchers alike. The philosophical underpinnings of pragmatism that align with my views as researcher are therefore evidenced throughout the study, from the impetus and design of the study (hypothesis of training CPs having an impact on PWAs), to the intervention in phase two (experiential learning– influence their beliefs; having an impact on their conversational styles (actions) of the study and in the analysis (CAT lens especially and the use of mixed methods across) and the interpretation (integrating the quantitative results with qualitative data derived from interviews and data created through the CAT framework) of data. In this study, the use of mixed methods and working under a pragmatic paradigm therefore allowed the researcher to address the inquiry that led this study in a comprehensive manner. The researcher was able to use existing evidence (literature reviewing), observation and experience and research, reflectively and methodologically, to identify a problematic phenomenon (preliminary phase and phase one), understand the context (preliminary phase, phase one and two), define the problem, develop solutions, and understand its impact while evaluating its outcomes (phase two).

### 5.3 Overview of the mixed method study design

The multi-phased research design was beneficial to the complex nature of this study. The multiple phases were required to address the research questions (Table 5.3). Additionally, each phase was purposefully designed to benefit the project’s stakeholders’ interests in different ways. An overview of the two phases is provided to orientate the reader to the study and the methods used. Each phase is then discussed in more detail in chapter 7.

Phase one employed purely qualitative methods and phase two involved a convergent mixed method study (Table 5.3). Qualitative methods were used in both phases (complemented by quantitative methods in phase two), as they enabled the researcher to “understand, explain, explore, discover and clarify situations, feelings, perceptions, attitudes, values, beliefs and experiences of a group of people” (Kumar, 2011, p. 103) in a given context and yield emergent data.

**Table 5.3 Phases, Aims and methods of the study**

| Study Phase | Objectives  | Method: Collection                              | Data  | Method: Analysis  |
|-------------|---|---|-------|---|
| One         | To adapt the CONNECT Communication Partner Scheme’s partner training modules for the primary caregivers of people with aphasia in India by identifying context-specific training and intervention needs of PWAs and their family members. | Participant-observation ethnographic techniques | using | Reflexive Thematic Analysis   |
| Two         | To analyse the impact of CPT on conversation.   | recording of conversation                       | of    | Weighted statistics; qualitative analysis of conversation using CAT |
|             | To analyse the impact of CPT on quality of life of the PWA and SOC of the primary caregiver   | Standardised assessment questionnaire           |       | Weighted statistics   |
|             | To expand our understanding of the impact of aphasia and the impact of CPT on the PWA and CP  | Recorded interview                              |       | Triangulation   |

In phase one, the researcher drew on ethnographic methods to gain an emic perspective on the domestic lives of two families in the Indian State of Karnataka, in which one member had aphasia. The purpose of this phase was to better understand the domestic lives of people living with aphasia in India and gain a deeper insight into the potential training needs of both the pWA and their families. The information extracted from the preliminary phase and the findings from the contextually rich ethnographic observations enabled the careful adaptation of the design, the development, and application of the CPT intervention implemented in phase two.

Phase two involved an exploratory intervention study, conducted in the form of a multiple case study using single subject procedures. This phase was designed to address questions 2 and 3 *Is CPT acceptable to families and pWA in the sociocultural context of the Indian Scenario?* and *What is the impact of training the significant others of pWA as*

*Communication Partners, in terms of participation and wellbeing within the family unit, in the Indian context?* Quantitative-experimental methods were used to quantifiably describe and explore (Howe, 2012) the relationship between providing CPT to primary givers of pWA and a) conversation within the dyad, b) quality of life of the PWA and c) the sense of coherence of the family member. Qualitative methods were used to explore the complex processes underlying interpersonal communication between pWA and their family members. The qualitative methods employed allowed for highly detailed investigation into the 'how' of changes in communication following the intervention and for understanding the reasons (based on triangulation from additional participant-initiated information and interview data) for positive, negative or no change in conversation, QOL and SOC following CPT for the primary caregivers. The use of qualitative approaches has been identified as useful in exploring similar CPT interventions that are designed to address the psychosocial consequences of aphasia (Sorin-Peters, 2004a).

#### **5.4 Ensuring rigour in mixed method studies**

To orient the reader to the measures taken to ensure quality, rigour, and transferability in this study, I have summarised my stance first and then delved into the focus on rigour in mixed methods research. In this study, The QUAL+quan (qualitative dominant) (Johnson & Onwuegbuzie, 2007) mixed method study is approached with a pragmatist view. I therefore deviate from the definition of QUAL+quan mixed methods with respect to the underlying paradigmatic view—"qualitative, constructivist-poststructuralist-critical view" (Johnson & Onwuegbuzie, 2007, p. 124), in that, I rely on pragmatism. My choice of QUAL+quan mixed methods is determined by the inquiry itself that is rooted in fostering a change in rehabilitation and reintegration practices in the context being studied.

To ensure the quality and rigor of this study I incorporated measures of quality and rigor used and suggested for quantitative, qualitative (see Lincoln & Guba, 1985) and mixed methods studies (Brown et al., 2015; Fetters & Molina-Azorin, 2017; Onwuegbuzie & Johnson, 2006). In addition to ensure the robustness of the mixed method design, I reviewed and reflected on the design in relation to the literature surrounding planning, designing and integration of mixed method studies (Cameron, 2011; Feilzer, 2010; Fetters & Molina-Azorin, 2017; Greene, 2008; Onwuegbuzie & Johnson, 2006). Carrying out mixed method studies involves a reflective and iterative process. This was practiced at different stages in the planning, execution and reporting of this study, as outlined in Table 5.4.

*Credibility* refers to ensuring the investigators representation of participants' realities fit that of the participant's actual realities (Tashakkori & Teddlie, 2008). Credibility is like the internal validity measured for quantitative methods. To ensure the credibility of the inferences, I have used excerpts from the extensive written observations made during data collection (phase two), participant quotes (phases one and two), triangulation from interview data in phase two to confirm some of the associations and inferences made based on the observations. Some response bias in the participants' responses to the questionnaires may be present, however, the use of multiple baselines may reduce the risk of this bias. Similarly, some bias may be present in the conversational interactions portrayed. However, the use of the mid-last five minutes for each of the recorded participant videos reduces the risk of capturing a staged or biased interaction. In addition,

the researcher used minimally intrusive recording equipment and left the clinic room where possible to further minimise the risk of capturing a biased interaction.

**Table 5.4 Steps taken to ensure quality and rigor**

|                          | Phase One   | Phase two   |
|--------------------------|---|---|
| <i>Credibility</i>       | Member checking of observations, extensive notetaking, acknowledgement of role as a researcher using minimally intrusive journals | Excerpts and transcripts of audio-visual recordings, participant quotes, triangulation, minimally intrusive recording equipment.          |
| <i>Internal Validity</i> | N/A   |   |
| <i>Transferability</i>   | Purposive Sampling, Thick Description   | Thick description   |
| <i>External Validity</i> | N/A   |   |
| <i>Dependability</i>     | Transparency in description of method, procedures followed, analysis  | CAT theoretical lens to ensure consistency in coding rationale, transparency  |
| <i>Reliability</i>       | N/A   | 2 <sup>nd</sup> rater. Use of psychometrically sound measures of assessment   |
| <i>Confirmability</i>    | Researchers Journal, Documentation of researcher's role and Influence on interpretation.  | Documentation of researcher's role and Influence on interpretation; video recorded data and transcription of the recordings, transparency |
| <i>Objectivity</i>       | N/A   |   |

*Transferability* is like external validity for quantitative methods. For mixed method studies, the “parts, the conclusions drawn, and the applications based on it can be of high or low quality, or somewhere in between.” (Onwuegbuzie & Johnson, 2006, p. 48). Ensuring quality is important to ensure the study is defensible to the stakeholders it is purposed for (*ibid*). Transferability can be ensured by providing a thick description of the method, the context, the settings, the procedure, and the participants as well as by studying a larger sample. In this study, the use of thick description of the method, the procedures followed, the context, the challenges the intervention and exploring each participant in depth, will enhance the ability of this study to be applied and replicated by the readers. The use of multiple baselines with qualitative and quantitative elements in phase two will also enhance the reader’s understanding of the changes occurring and the outcomes for each participant over a period.

*Dependability* relates to the appropriateness of the inquiry process, the decisions and methodological processes (Tashakkori & Teddlie, 2008). It is similar in nature to reliability of a quantitative study. To evaluate the appropriateness of the study, the enquiry (phases one and two), the intervention explored in phase two, and the study specific instruments developed and used in phase two, consultation with a local advisor as well as teams of bilingual researchers and SLTs with expertise in the field of adult acquired aphasia and quality of life was ensured prior to carrying out the study. Transparency in the description of the procedures followed for data collection and analysis in both phases one and two enhance the dependability of the study. To ensure the appropriateness of the transcripts,

a bilingual reviewer with no expertise in the subject area was consulted to review some of the transcripts particularly those that were in a language that the researcher was not familiar with. To ensure the appropriateness of the qualitative analysis of the data, the use of a framework developed by applying the CAT framework to the data promoted the dependability of the findings described. The use of psychometrically sound measuring instruments such as the SOC-13 (Monica Eriksson & Lindström, 2005) and the SAQOL-39 (Hilari et al., 2003a; Kiran & Krishnan, 2013) as well as the using a second rater to evaluate the conversations promoted the reliability and dependability of the findings.

*Confirmability* relates to the product or the inferences from the study. Confirmability is to ensure that the inferences are based on the actual results and findings from the study. Immersion in the context explored and the maintenance of journals in phase one and the use of video recorded data and transcription of the recordings in phase two ensure transparency of the data and allows confirmability of the findings and interpretations. In addition, frequent discussion of the analysis and interpretation of the findings with the thesis supervisor supports the confirmability of the findings described.

Triangulation of the data was done where relevant to promote the credibility and to enhance the comprehensiveness of some of the inferences made from the findings of this study. Triangulation has been used as a methodological framework, as a tool for validating or confirming inferences made, and to support comprehension of a complex phenomenon or problem (Mertens & Hesse-Biber, 2012). Triangulation is subjective and, in this study, was based on the researcher's observations, interpretations of participant behaviour and reported information. The qualitative framework allowed for exploration and understanding of the 'how' and 'why' and the use of quantitative frameworks allowed for determination of 'how much'. This use of interpretive qualitative methods for causal explanation and quantitative methods for description was suggested by Howe (Mertens & Hesse-Biber, 2012). *Conjunctive triangulation* (Howe, 2012) assigns roles to qualitative and quantitative methods, but does not view the two paradigms as being incompatible. The choice of conjunctive triangulation is not for the purpose of 'validity convergence' (Fielding, 2012) i.e., seeking agreement between the two types of data but with the purpose of generating more comprehensive findings (Fielding, 2012; Howe, 2012).

Triangulation of some of the qualitative data collected following implementation of the explored CPT intervention, not only deepens our understanding of the perceived impact of the intervention by the recipients but also our understanding of possible ongoing environmental factors that may have influenced its acceptability. This depth of understanding provides direction for prospective research into modifications of this approach to increase its applicability and feasibility within the context of India.

To further enhance the quality of the study, the presentation of the findings from the study also follows a mixed-representational approach as recommended by Greene (2008). Findings that resulted from qualitative analysis have been presented graphically and as numeric tables. Findings from qualitatively analysed data have been presented in the form of excerpts, stories, descriptive patterns, and summary tables in chapters 8-11.

### **5.5 Summary**

To explore the applicability of CPT to pWA and their primary caregivers within the complex sociocultural context of India, and thereby broaden the evidence base of CPT approaches to the rehabilitation of people in a majority world country such as India, the researcher identified with pragmatic philosophy as best suited to guide this multi-phase study. In consideration of the novel application of CPT approaches to the context of pWA in India, a mixed method study that captured more comprehensive data both on the participants and their context was therefore identified as being of high importance to the study as described in section 5.3.1. Three sub-questions and four objectives were identified as needing to be addressed and determined the splitting of this study into two phases as described in section 5.4. The application of mixed methods and pragmatic philosophy allowed the researcher to design a rigorous study that was well suited to explore the application of CPT within the complex and challenging sociocultural context of India.

## **6 Study design and methods across the two phases of the project**

This chapter describes the procedures followed to carry out the two phases of this study. The ethical considerations to design and carry out this study are first described in section 6.1. The procedure for recruitment, data collection, data preparation and analysis are then described in detail for phases one (see section 6.2) and two (see section 6.3) of this study. The development of study specific assessment and intervention tools are addressed in this chapter but are described in more detail in chapter 7. This chapter also describes the coding framework and the operational definitions developed to facilitate the novel application of the Communication Accommodation Theory (CAT) to the context of CPT and dyadic communication between people with aphasia (pWA) and their communication partners (CPs) (see section 6.3.7.3). Throughout this chapter, transparency in the procedures followed has been ensured to enhance the quality and rigor of the study.

### **6.1 Ethical Considerations**

At every stage of the research, from planning to reporting of the documented results, all ethical issues that are envisaged were considered. Ethical considerations were made in accordance with the ethical guidelines laid out by the research ethics committee, School of Linguistics, Speech and Communication Sciences (SLSCS), National Institute of Mental Health and Neurosciences (NIMHANS) ethical requirements where relevant.

Ethical approval was confirmed from the research ethics committee, SLSCS, Trinity College Dublin in Ireland (phases one and two; Appendix 2) as well the research ethics committee at NIMHANS (phase two; Appendix 3) and the hospitals at Narayana Health (phase two; Appendix 4), in Bangalore, India. Informed consent was obtained from all participants prior to the commencement of each phase of the study. For the pWA, communicatively accessible participation information leaflets and consent forms (appendices 5 and 6) were used to communicate information regarding the study including the extent of participation, the nature of assessment procedures and intervention, duration of involvement. The accessible nature of the forms was so designed to ensure the participants understood the information prior to consenting to participate and allowing us to document their true, informed consent. The participants' ability to provide consent is also indicative of their capacity to communicate consent as well as to participate in the nature described in the forms. The information in the forms clearly conveyed the roles of the researcher and the participants and the boundaries that were respected throughout the study as well in terms of data protection, management, and confidentiality. Additional information was provided to establish and ensure credibility and institutional support for both the researcher and the participants.

Due cognisance was given to cultural considerations for the people living in India throughout the study. Families carry out various religious practices and rituals in their private homes. The researcher ensured the time chosen for the house visits was convenient and suitable to all the individuals residing in the homes of the recruited families ensuring them of her non-judgmental observation role. Private transport is a luxury for many families in India and the accessibility of public transport is reduced which is impractical for people with disabilities and would cause an expectable amount of inconvenience to the families. Due to the absence of funding, an inherent limitation of this study was the



participation of only those people and families who have access to a form of transport. The chosen design of the study required multiple visits to the centre requiring the recruited spouses and accompanying family members to take time off from their daily activities, and professional jobs. The researcher and the gatekeepers coordinated with the recruited participants to choose the most convenient timings and dates to carry out the evaluations and where possible, coordinated them with other routine visits to the hospital. Families who experienced any inconvenience despite the efforts to minimize this, were free to drop out from the study without prior notice. Reciprocal engagement of the researcher and the participants was ensured at every step through the attentive and careful measures described, and by explicitly acknowledging the expertise of the participants and the importance of their participation for the wider community of families and pWA in India. Care was also taken to ensure the setting was welcoming to all participants and no reservations were made in terms of ethnicity, caste, religious or cultural background.

## **6.2 Phase One: Domestic lives of people with aphasia and their family**

The study of the domestic lives of pWA and their family members involved an ethnographic approach using a non-experimental, observational, and qualitative study design. This was not a true ethnographic study in the purest sense, due to the limitations in terms of time constraints and practical issues. Such shorter periods for ethnographic research however are common in healthcare research (Webster & Rice, 2019). This study employed ethnographic techniques (Griffin & Bengry-Howell, 2013), and a combination of methods (Pink, 2015) to maximize the efficiency of employing an ethnographic approach to understand the lived experiences of pWA in India. The researcher's knowledge and previous experiences while engaging with pWA influenced this inquiry and will be important in understanding the implications of the skilled observations made during the study (Lopez & Willis, 2004).

### **6.2.1 Application of ethnographic techniques**

Ethnography centres around observation of subjects of interest who may be considered to be the 'protagonists' or actors on a stage (Gobo, 2008). An interpretive approach using ethnographic methods, enables the researcher to immerse themselves in the context being studied and understand the complexities, contextual factors and social processes within the specific context and thus obtain a comprehensive understanding that might not otherwise be achieved (Copland & Creese, 2015). In research in health science, ethnographic approaches help to identify important aspects associated with the field of health and helps formulate appropriate interventions that may not otherwise be determined through standard medical frameworks (Pigg, 2013). It provides researchers with an opportunity to either observe without participation (*non-participant observer*) or act as a *participant observer* (Gobo, 2008; Shaw et al., 2015, p. 10), in other words, participate in the activities of the community in addition to making observations (Whitehead, 2005), thus obtaining an 'emic perspective' (Gobo, 2008; Malinowsky, 1992) while understanding the socio-cultural aspects of everyday life. Ethnographic techniques were specifically chosen to enable the researcher to obtain a deeper understanding of the challenges faced and the unique training needs of pWA and their families in the Indian context.

Ethnographers often supplement their factual observations with interviews which are audio- recorded and transcribed for the purpose of analysis. This method was not chosen due to its tendency to disrupt the naturalness of the contextual situation in addition to time constraints, ethical issues concerning the participants’ desired level of confidentiality of shared information and the impracticalities of spontaneous audio-recordings (Copland & Creese, 2015). Direct open observation was thus the preferred method and involved employing researcher journals at different levels to record factual information as well as the researcher’s reflections of the contextual situation, personal feelings, emotions and beliefs (Copland & Creese, 2015). Traditional interpretations of ethnography and the task involved describe direct and sustained observation and fieldwork in the context of the subjects under study for extended periods of time. Although these standard observational methods allow detailed and in-depth descriptions of people’s lives, such fieldwork is not always feasible in time-sensitive and contemporary contexts (Pink, 2015).

### 6.2.2 Sampling and Recruitment

Purposive sampling was deemed most appropriate (Willis et al., 2016) to recruit participants to gain an emic perspective of the domestic lives of pWA, and their family members who live with them. Convenience sampling - a form of purposive sampling (Gelo et al., 2008)– was used for this phase of the study. This method was considered appropriate as it allowed recruitment participants from a sub-population of pWA based on availability and accessibility. The inclusion and exclusion criteria are presented in table 6.1.

**Table 6.1 Inclusion and exclusion criteria for phase one**

| Participants            | Inclusion Criteria  | Exclusion Criteria   |
|-------------------------|---|--|
| (a) People with Aphasia | Ability to communicate basic needs at some level. (Eg: Express themselves through gestures/ pointing/ verbally/ writing, etc)<br>Living significant other/ caregiver living with PWA prior to the onset of stroke.<br>Pre-morbid competence in either English and/or Kannada. | Family member with any diagnosed mental health disorder, degenerative disorder, communication disorder or who is terminally ill and is living in the house |
| (b) Family Members      | Language proficiency in either English or Kannada   | Prior specialization in speech language therapy or other rehabilitation sciences.  |

Three families were identified and contacted by the gatekeepers who informed them about the study. The families were given one week to express interest in participation in the study before the researcher contacted them. Three families were initially recruited to the study. Two families consented to participate, the third withdrew.

### 6.2.3 Materials and methods used in phase one

To ensure the quality of the assumed ‘role as a researcher’ in this phase of the study, I had been exposed to using ethnographic techniques in Ireland prior to commencing data collection within the Indian context. The exposure involved immersion as a direct observer in the natural home setting of a family of an individual with aphasia. The skill development

process was supported through mentoring from an SLT with experience in using ethnographic methods.

Four home visits for each family were conducted over a period of one week. The members of the respective households were provided with a brief description of the nature of the visit at the time of recruitment. It was important to enter the field appropriately and win the trust (Gobo, 2008) of the members of the family being observed. During the first session I spent an initial ten-minutes familiarizing myself with the members of the family, and getting acclimatised to the atmosphere. This also provided the members of the household time to get desensitised to the presence of an outsider within their home. I then withdrew from the conversation, minimizing my presence (Giorgi, 2010) and took my position as an open observer in the household. In the following visits, no formal briefings about the visit were provided to maximize the naturalness of the environment. The duration of each session was two-three hours.

The procedure used to obtain an emic perspective of the domestic lives of pWA and their families in India followed the procedure illustrated by Giorgi and Giorgi (2013) and applied to this study as described. First, I approached the phenomenon being studied through reflection on my knowledge of the Indian context and my personal, professional, and clinical experiences within this contextual background. I then began my analysis of the domestic lives of the pWA and their family members. My interpretation of the ongoing analysis and the relevance of the meanings that have emerged from this study were influenced by my skills, abilities, and prior experiences within this context. I documented my observations at various levels using field notes and journals. A journal was used to record factual information as well as my reflections of the contextual situation, personal feelings, emotions and beliefs (Copland & Creese, 2015). Within the setting of the household, I used a smaller pocket-sized journal to minimise the intrusiveness, enhance the naturalness and thereby minimize a staged setting (*ibid*). Immediately after the session I documented an expanded version of the notes made within the setting within which some interpretations of the factual observations made were also recorded. I also recorded my personal thoughts, feelings and emotions about the interactions observed within the natural household setting of the PWA. A final summary of the observations was made for each family at the end of the study. A collective interpretation of the domestic lives of the pWA and their family members is described in chapter 8.

The initial study design intended to continue the involvement of the participants from phase one in phase two of the study (field testing of CPT-In), with a second round of home visits, following the same procedures to gain an emic perspective on the domestic lives of the pWA, their spouses and family members post exposure to CPT. However, owing to challenges encountered relating to researcher safety, local institutional approval and recruitment, phases one and two had to be carried out in two different cities within the state of Karnataka. Continued participation of participants from this study in the next phase of the study was therefore not possible. One dyad (dyad 14- Patricia and Carlos) however, who participated in the ethnography, also participated in the pilot study. The data from the pilot has been included in the analysis of the data from phase two of this study.

#### **6.2.4 Analysis of observational data**

The method of reflexive thematic analysis (Braun & Clarke, 2019; V. Clarke & Braun, 2016) has been used to analyse the observational data recorded in this phase. The “open, exploratory, flexible and iterative” (Braun & Clarke, 2019, p. 5) procedure followed to carry out reflexive thematic analysis aligns with the process of deconstruction (unsystematic open coding), association and axial coding that is recommended for ethnographic techniques (Gobo, 2008). The procedure involved an inductive analytical approach to identify patterns that could be understood from immersion in the data and the context. The reflexive thought process that guided the analysis began during the process of data collection itself. During the process of immersion in the context and the data, I first unsystematically identified and made a note of concepts and interesting observations. The unsystematic identification of concepts is like the process of deconstruction which involves unsystematic open coding (*ibid*). I reflected on these highlighted observations and made associations between the environment, the context and the observed behaviour and explored similar patterns occurring across the data. At each stage, I reflected on the meaning underlying these patterns to generate the themes and hypotheses to be illustrated in the findings from this data. The themes illustrated in the findings from this study therefore depict “patterns of shared meaning” as recommended by Braun and Clarke (2019, p. 5), as opposed to ‘domain summaries’ that are frequently used in thematic analysis. The final themes were illustrated as stories with excerpts from the expanded ethnographic notes to enhance transparency and legitimise the occurrence of these patterns in the data.

#### **6.3 Phase two**

This phase of the study comprised the main element of the larger project and had multiple parts. First, the training module – Communication Partner Training for the Primary Caregivers of People with Aphasia in India (CPT-In) – was developed and adapted from the Communication Partner Toolkit (McVicker, 2007). The manualised training script required to be translated to Kannada to ensure intervention fidelity (by way of ensuring consistency) when delivering the training to Kannada speaking participants. The procedure for adaptation and translation are described in detail in Chapter 7. Once the module was developed, a pilot study was conducted to test the module with 1 dyad. Following this, an exploratory intervention study was conducted within the Indian context to test the applicability and impact of CPT-In in this context.

##### **6.3.1 Using multiple case studies and single subject procedures**

Single Subject Experimental Designs (SSEDs) have been gaining increasing popularity in rehabilitation sciences and disability studies such in studies exploring the effectiveness of intervention approaches to the rehabilitation of pWA. Some of these reasons include increasing evidence about the quality of such designs (Howard et al., 2015; Krasny-Pacini & Evans, 2018) ([www.cebm.net](http://www.cebm.net)), more reliable and rigorous methods for the analysis of data (e.g., Howard et al., 2015) and guidelines for the reporting of results, low sample size requirements reduce challenges in recruitment, heterogeneous populations (Krasny-Pacini & Evans, 2018).

The use of multiple data points pre-intervention enables us to capture trends in the improvement and identify if improvements are related to the use of strategies or

extraneous factors including spontaneous recovery. Further, life after stroke is not a static phase, there are multiple dynamic realities where various factors and changing circumstances might alter the persons experience of the stroke and may thus yield different results at different points in time (Lazar et al., 2008). In such complex chronic conditions, repeated observations with data collected through qualitative data (observations, interviews and additional information provided during administration of objective measures) alongside quantitative data (collected from objective instruments otherwise used), provides researchers with a comprehensive picture of the processes underlying the dynamic nature of living with a stroke and aphasia. Collection of the additional information, sometimes regarded as 'unwanted noise' adds depth and value to the responses indicated by the participants (Feilzer, 2010). It could be said that the respondents are aware of their changing realities and are therefore allowed the opportunity to define their responses based on what seems more meaningful to them rather than solely adhering to a less meaningful objective normative value (P. Clarke, 2009). Objective data collected using standardised instruments that are analysed quantitatively and data obtained from observations and subjective responses are often collected and published as separate pieces of research. Readers often make associations between the findings of these published studies to understand the reasons for the documented results. Clarke (2009) however, highlights that "in this process of trying to link findings across disparate studies, we run the risk of misattributing findings from one methodological arena across another" (p. 296). In this study, mixing quantitative and qualitative methods for multiple case studies allowed tracing, and understanding of not just what changed or how much change occurred overtime, but also how these changes occurred and what may have caused these changes. The use of mixed methods therefore allowed more comprehensive understanding and explanation of the findings, which is an appraisal reported by other researchers (P. Clarke, 2009; McKim, 2017).

The multiple case study design was also the most resource-efficient option. In the context of challenges relating to participant numbers, funding, accessible transport, time. The design allowed the researcher to exploit the opportunity to extract as much data as possible from each data collection time point. In consideration of the resource constrained context, the involvement of vulnerable participants and the methodological arguments put forth by Clarke (P. Clarke, 2009), It could be suggested that conducting more comprehensive mixed-method research, delivers more justice to stroke survivors and their families participating in research.

### **6.3.2 Pilot Study**

Purposive sampling was used to recruit one of the participants from phase one to participate in a preliminary study to pilot CPT-In (development and adaptation described in Chapter 7). The pilot was carried out across three visits spread out over the course of a week (in addition to the 4 participant-observer visits in phase one). During the first visit, a ten-minute audio-visual conversation recording was taken to capture the interaction between the PWA and his wife. The participants were provided with sheets of paper and stationery placed on a teapoy<sup>1</sup> should they find use for them during the conversational

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<sup>1</sup> Teapoy—usually a three-legged ornamental stand or a table used to support a tea-set. It is often used in living rooms as a side table to support teacups and tea-snacks.

interaction. During the second visit, I used the script and content of the partner training module developed for use in this study to train the wife as a communication partner (CP). For the role-play element of the training, I participated to enable practice of the skills taught. Following the training, the trained CP was consulted to provide feedback on the training delivered during the session. The feedback provided highlighted any needs and details that would need to be added or taken out prior to field testing the training module on a larger sample. In the follow-up visit, a second audio-visual recording was taken of a ten-minute conversational interaction between the pWA and his wife. The pre- and post-training recordings were then transcribed, and the mid- last 5 minutes of the recording and transcript were then analysed to understand the impact of the training on this dyad. The analysis was carried out using adapted versions of the Kagan scales (Kagan et al., 2001)—the “Measure of Support in Conversation for Adults with aphasia [(M)SCA]” (*ibid*, p. 628) and the “Measure of Participation in Conversation for Adults with aphasia [(M)PCA]” (*ibid*, p. 629). The communication accommodation theoretic lens was then used to explore the adjustments made in conversation prior to and following exposure to training for the primary caregiver of the PWA. The resultant quantitative and qualitative data obtained were used alongside the data collected from the exploratory intervention in phase two to explore the impact of CPT-In for the primary caregivers of pWA.

### **6.3.3 Sampling and Recruitment for the CPT intervention**

Simple random sampling was initially chosen as the sampling strategy to be used to recruit participants with aphasia and their spouses to the study. However, owing to the challenges with recruitment, convenience sampling was used. The procedure used for participant recruitment varied slightly between the two centres at which the study was conducted. At *NIMHANS*, recruitment entailed a cohort of gatekeepers (neurologists and neurorehabilitation therapists) identifying pWA their spouses who fit the inclusion criteria (see table 6.2) and referring them to the department of speech and hearing while also notifying the researcher. Those patients who were agreeable, were then referred to the researcher to discuss further information on the study using the participant information leaflets (PILs) and consent forms. In addition, the registry of patients referred to the department of speech and hearing at *NIMHANS* was used to identify and recruit pWA who might fit the inclusion criteria to participate in the study. Those who volunteered participation, were then provided with appointments to suit their availability or attendance at the hospital for other appointments. At *the Mazumdar Shaw Medical Centre (MSMC), Narayana Health City*, recruitment of participants followed a slightly different procedure. Here, potential participants identified by the gatekeepers were briefed on the study before referral to the researcher herself to discuss further using the PILs and consent forms. At both centres, the patients recruited were given a week between information provision and deciding whether to participate. The extensive challenges with recruitment also meant exclusion of participants based on time post onset was not feasible. Inclusion criteria was therefore broadened to include pWA in the acute stage and during their hospitalization.

**Table 6.2 Inclusion and Exclusion Criteria (Phase two)**

| Participants            | Inclusion Criteria   | Exclusion Criteria  |
|-------------------------|--|---|
| (a) Caregivers of PWA's | Proficient in either English or Kannada  | Prior exposure to training in speech language therapy or other rehabilitation sciences.   |
| (b) People with Aphasia | Moderate to severe aphasia on WAB-K.<br>Ability to communicate basic needs at some level. (Eg: Express themselves through gestures/ pointing/ verbally/ writing, etc)<br>Minimum of six months post-stroke (initially desired)**<br>Living significant other/ caregiver living with PWA prior to the onset of stroke.<br>Pre-morbid competence in either English and/or Kannada. | Deteriorating neurological disorders such as dementia, progressive aphasia.<br>Diagnosis of any psychiatric disorder.<br>Visual/ hearing impairment.<br>History of a speech or language disorder prior to the stroke. |

\*\*Criteria was broadened to include pWA in the acute stages owing to recruitment challenges.

Twenty-six participants comprising thirteen dyads (each made up of a PWA and their primary caregiver), were recruited to participate in the study. Of the thirteen dyads, six dyads attended the training day and only 5 of these dyads attended follow-up sessions. A telephonic assessment session was organised for the 6<sup>th</sup> participant; however, I was only able to collect data on the SAQOL-39 and the SOC scales. Owing to challenges associated with technical skill, technological access, and internet connectivity, it was not possible to obtain data on the conversational interaction following training. Of the remaining 5, only 3 of the participants attended all 5 sessions. The remaining 2 dyads attended a minimum of two baselines and one follow-up session. Figure 6.1 illustrates the data collected during phase two of this study.





### 6.3.4 Setting and participants

Phase two was conducted at two select hospitals in India—*NIMHANS*: a multi-disciplinary institute under the central government and *MSMC, NH Health City*. Both hospitals are within the urban centre of Bangalore. At the time of designing the study, *NIMHANS* was specifically chosen being a centre of excellence with an extensive case load representing a varied cultural and socio-economic community of Indians from different regions of the country. However, owing to challenges with recruitment, *MSMC* was contacted as a potential data collection site. The private hospital set up also allowed an opportunity to explore the implementation of the CPT programme within a societal sector that might not necessarily be represented in the *NIMHANS* cohort.

The study involved 14 dyads in which one person had aphasia. The relationships between the pWA and their CPs varied between dyads. In dyads 4 and 9, two CPs were present for most of the sessions. The participants demographics are listed in table 6.3. Participants in the study belonged to both urban and rural settings, were from varied linguistic, socio-economic, educational, and religious backgrounds.

**Table 6.3 Participant characteristics**

| Participant characteristics |  |
|-----------------------------|--|
| pWA                         | 3 Women, 11 Men  |
| Ages                        | 28 – 75 yrs  |
| Type of Aphasia             | Anomic, Broca's, Wernicke's, Global  |
| Severity of the Aphasia     | Moderate (AQ = 74) to very Severe (AQ = 1.1)   |
| Caregivers                  | 10** Women and 6 Men Caregivers  |
| Relationship of PWA and     | 2 siblings (older sisters), 1 brother-in law, 3 children (1 daughter, 2 sons), 9 spouses (7 wives, 2 husbands), 1 granddaughter  |
| Language                    | 6 Kannada speakers, 1 Kannada and English Bilingual, 3 Kannada and Telugu bilinguals, 2 Hindi and English Bilinguals, 1 English and Tamil Bilingual, 1 English and Konkani Bilingual |

\*\* In dyads 4 and 9, an additional female caregiver was present in most of the sessions

All participants had received some amount of intervention for various aspects affected by the stroke. Participants informally reported difficulty accessing and following through with sessions at hospitals as well as the recommendations provided to be followed in the home setting. Some participants reported that smaller, private health centres were more accessible in terms of distance. However, differences in the cost and the range of services offered differed from that of specialist departments in hospitals. Some participants availed of alternative treatments guided by religious practices as well as traditions. These included visits to places of pilgrimage, religious retreats and ayurvedic treatments.

### 6.3.5 Data collection tools and methods

To evaluate the impact of CPT for the rehabilitation and reintegration of pWA in the Indian scenario, it is essential to ensure the intervention meets the basic yet essential needs of the people living with aphasia and their families (Blom Johansson et al., 2013; Howe, 2012). The outcome measures were chosen in consideration of various constructs negatively affected by aphasia to ensure the intervention improved not just the conversational partnerships between the person with aphasia and the family members but also positively affected the psychosocial well-being of all those affected by aphasia (Kagan et al., 2007; Simmons-Mackie & Kagan, 2007). The tools to measure the dependent variables thus chosen are described in table 6.4.

To measure the communication between the person with aphasia and the spouse, video recordings of their conversational interaction sessions (discussed further in this section) were taken at the centres from where the participants were recruited and where the trial was conducted. The chosen measures, i.e., (M)PCA and the (M)SCA (Kagan et al., 2001) have specifically been developed to facilitate the evaluation of outcomes by SLTs carrying out research using partner approaches in the rehabilitation of pWA (*ibid*). The [(M)SCA] and the [(M)PCA] tools adapted for use in the study score behaviours on a five-point rating scale ranging from 0 to 4 with context specific anchors developed for this study. The anchors were specific to the context of family relationships in India and are illustrated in appendix 7.

**Table 6.4 Assessment Measures**

| Construct of interest                       | Tools                                      | Procedure                                | Purpose  |
|---|--|--|--|
| PWA's Participation                         | [(M)PCA]<br>Kagan, 2001                    | Video Recordings, 5-point rating scale   | To evaluate the ability of the PWA to participate in conversation (interaction and transaction) with a non-aphasic spouse/Communication Partner. |
| Caregiver's ability to support conversation | [(M)SCA]<br>Kagan, 2001                    | Video Recordings, 5-point rating scale   | To measure the ability of the non-aphasic spouse to support conversation by acknowledging and revealing the competence of the PWA.               |
| Attitudes and well-being                    | Informal Interview                         | Semi-structured interview                | To explore the general mental, emotional and psychosocial wellbeing of each person with aphasia and their primary caregiver                      |
| Quality of Life of the PWA                  | SAQOL-39<br>Kiran & Krishnan, 2013         | Interview administered self-report scale | To measure the impact of the intervention on the quality of life of the person with aphasia.   |
| Sense of Coherence of the spouse            | Adapted version of SOC-13, Antonovsky 1987 | Self-report scale                        | To measure the impact of the intervention of the ability of the spouse to cope with the stressors associated with the stroke and aphasia.        |

The semi-structured interview designed specifically for this study within the Indian context was used to explore the general mental, emotional, and psychosocial wellbeing of each PWA and their primary caregiver. The interview explored the changes in the roles

undertaken, the distribution of ‘power’ as reflected in communication when one partner has aphasia (Sorin-Peters, 2004a), the dependence of the PWA on the caregiver and the stresses within the relationship post onset of the stroke and aphasia. To capture these elements the interview was divided into 4 sections—General, Participation, Personal, and Environment with scope for the participants to convey any additional concerns, feelings, or information they would like to share. Table 6.5 provides an overview of the semi-structured interview guide (see Appendix 8).

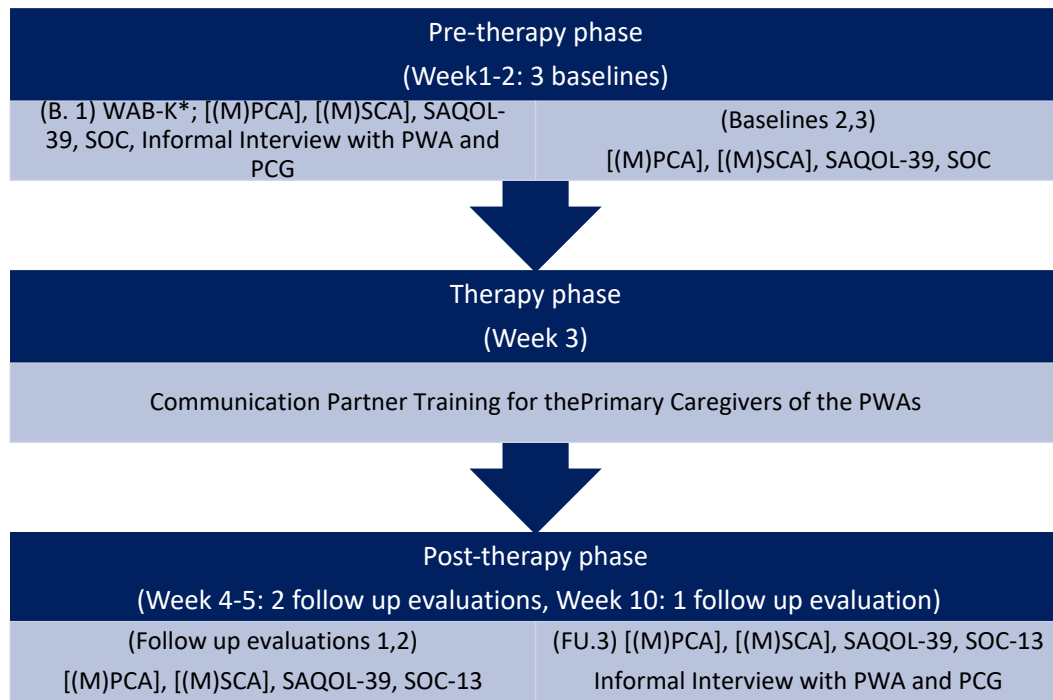
**Table 6.5 Overview of the semi-structured interview guide**

| Category      | Items | Description of probing items   |
|---------------|-------|--|
| General       | 1-3   | Questions about how the PWA and the caregiver feel about the persons aphasia and the changes following the onset of aphasia  |
| Participation | 4-19  | Questions about participation in everyday activities including communication, relationship with each other, work, participation in the community, social activities, feelings surrounding level of activity and participation. |
| Personal      | 20-27 | Feelings about self, changes in plans, level of functioning, independence and position in the family.  |
| Environment   | 28-39 | Questions about experience with treatment, support system, impact on financial status, feelings about relationships, safety of the home environment, accessibility and challenges with accessibility.                          |
| Open question | 40    | Open to anything the PWA and caregiver would like to share.  |

The Stroke and Aphasia Quality of Life Scale (SAQOL 39)- Kannada Version (Kiran & Krishnan, 2013) is a culturally validated and reliable tool designed to measure the health-related quality of life (HRQOL) (Hilari et al., 2003b) in Kannada speaking people with long term aphasia in India. The Sense of Coherence (SOC) was chosen as a measure as research suggests that a high sense of coherence or an increased ability to successfully cope with stressors promotes better health (A. Antonovsky, 1987; H. Antonovsky & Sagy, 1986; M Eriksson & Lindstrom, 2006). The SOC of an individual can be shaped by one’s perceptions of self and their position in society, their experiences and level of participation. Antonovsky (1996) suggests that for older people, a sense of being, a sense of worth and value and the ability to effectively communicate with those around them would strengthen their sense of coherence. For this study, the SOC-13 item scale was culturally and linguistically adapted and validated (see Appendix 9). The procedure for adaptation and validation are described in Chapter 7 (see section 7.3).

The initial data for all dyads was collected across the first baseline week. Two to three baseline evaluations were carried out in the first two weeks during the pre-therapy phase and between one to three evaluations were carried out in weeks 4 and 5 of the post therapy phases. The CPT intervention was provided during week 3 for most participants. Slight variations in the timelines were present for each dyad. These variations were inevitable, and adjustments were made to suit the needs of the participants. For P5, baseline evaluations, training and follow up evaluations were all carried out over the course of one week to coincide with his duration in and discharge from hospital. This arrangement was made as the participant had to leave the state to go back to his hometown. The recruitment of participants in the acute stage however, had its challenges. In two sessions, owing to the PWA feeling fatigued and sleepy following partial evaluation,

the family members present, were asked to take the video recording of the conversational interaction later, when the PWA was comfortable. The recordings were to be passed on to the researcher in the following session. However, during the follow-up session, the absence of the family member and inability to retrieve the recording, caused inconsistency in the data collected at each session for P5 (see figure 6.1). Appendix 10 summarises the data that was collected for each of the 14 dyads (13 + 1 pilot). Figure 6.2 illustrates the procedural timeline for this phase of the study.



**Figure 6.2 Timeline of the procedure**

\*the Western Aphasia Battery- Kannada version (Chengappa & Kumar, 2008) was administered for those participants who had no record of the assessment and for those participants for whom a WAB assessment was not carried out within a month prior to the date of recruitment.

**Description of the recorded conversation**

The pre-selected format for the conversational interactions were guided by elements of the experimental design. All conversational interactions followed a semi-structured format purposively designed to provide opportunities for interaction between the pWA and their primary caregivers as well as for effective two-way conversation where both partners exchange the roles of the ‘speaker’ and ‘listener’. It included conversations about current events in the news, upcoming social, religious, cultural or nation events and festivals as well as personal stories. This structure was followed at every session and by all dyads. The interactions were video recorded and lasted between 5 minutes to 20 minutes in duration.

### **Procedure for the interview with the Persons with Aphasia and their Spouse**

The researcher herself conducted the interviews following a semi-structured format with a predetermined set of questions directed to each individual and the dyad as a unit. Each interview extended to between 45 mins to 100 minutes. To ensure the efficiency of the interview, strategies to support communication including verbal, written, gestural and pictorial forms were employed when interacting with the pWA. The interviews were video-recorded and then transcribed by the researcher, however translation was only done for those excerpts quoted in the findings section.

### **6.3.6 The intervention: Communication partner training (CPT-In)**

CPT-In involved a one-day training workshop comprising five modules for the spouses of pWA delivered using pedagogic and empirical methods. The structure of the intervention delivered was similar to that followed by Kagan (2001), however the content of the training itself was adapted from the Communication Partner Scheme (CPS) developed by McVicker and colleagues (2009), to suit the cultural context and address the training needs of the pWA in India (see section 7.4). The researcher's experience from working within the cultural context of the state of Karnataka in India, and the findings from phase one further informed the adaptation and development of the intervention. The training modules are described in chapter 7 (see table 7.2). Although CPT-In was designed to be delivered in small groups, it was delivered both in individual and small group sessions owing to challenges with recruitment and availability of the CPs.

### **6.3.7 Procedure for data preparation and analysis**

Preparing the 40 recorded conversations for analysis involved reducing the differences in the duration of the recordings. Those recordings that were longer than 5 minutes were clipped to include the middle or the final 5 minutes, based on familiarisation. The selection of the recorded sample was carried out to minimise staged communication that might result from awareness of being recorded (Beeke et al., 2015). The videos were assessed based on the Kagan Scales for the following: a) The ability of the pWA to participate in conversation in terms of the level of interaction and the exchange/transaction of information using the [(M)PCA]; b) The ability of the CP to support conversation for the PWA in terms of acknowledging the competence of the person with aphasia as well as the ability to reveal the competence of the person with aphasia using the [(M)SCA]. A second rater was recruited to rate 50% of the recordings on the MSC MPS measures. The level of agreement as calculated using Cronbach's Alpha is 0.619 for the (M)SCA rating and 0.689 for the (M)PCA ratings suggesting an acceptable level of reliability.

The scores of each dyad were recorded for each of the above measures as well as the SAQOL-39 (English version; Hilari et al., 2003b; Kannada version; Kiran & Krishnan, 2013) and the adapted SOC-13 (A. Antonovsky, 1987) at each data point and documented in individual data sets using Microsoft excel. Descriptive statistical analysis of the pre-intervention data was calculated using Statistical functions available in Ms. Excel. Weighted statistics (WEST) approaches (Matthews et al., 1990) like the WEST-Roc and WEST- Trend (Howard et al., 2015), and visual analysis were used to measure the changes between the pre and post treatment phases and strengthened the analysis of outcomes (K. Eriksson et al., 2016; Howard et al., 2015). This approach has been recommended by Howard and colleagues (2015) for the analysis of single subject data particularly for cases where there

is a chance of changes and variations in the baseline data caused due to variation in performance. In addition, owing to challenges with recruitment and data collection, there were inconsistency in the number of baseline and follow-up sessions across participants. The use of a t-test applied to the weighted scores, allows for differences between the number of pre therapy and post therapy baselines observed in the data collected. This is supported by the central limit theorem which guarantees the accuracy of t-tests in SSEDs irrespective of the normality of the underlying data (Howard et al., 2015; Kwak & Kim, 2017). R-Studio was used to carry out the statistical analysis of the data.

To carry out the weighted statistics, the scores of those participants who attended at least 2 baseline sessions and at least 1 follow up session were modified using weightings. The weightings applied to the item scores of each session varied between dyads based on the number of baseline and follow-up data points as described by Howard and colleagues (2015). The application of weightings has been illustrated in appendix 11. The results of each set of weighted scores were then analysed using a one-sample t-test. A statistically significant difference in the scores of the baseline and follow up sessions was said to be present only if both the WEST-ROC and the WEST-TREND scores elicited significant results. For some participants however, owing to the fewer timepoints, the use of weighted statistics was not possible, and the raw scores were analysed using paired-t-tests.

#### **6.3.7.1 Effect Sizes: Calculation and interpretation**

To understand the impact of the intervention we need to consider the effect of the intervention in addition to the statistical significance of the intervention and report the same to enhance the usefulness of the data both in terms of future meta-analysis research as well as has implications for clinical practice (Turner & Bernard, 2006).

To estimate the effect size of the CPT intervention used in this study we have the  $d_1$  statistic ( $d_{BS}$ ) proposed by Busk and Serlin (1992) and Cohen's  $d$  ( $d_C$ ) where it was not possible to calculate  $d_{BS}$ .  $d_{BS}$  has been commonly reported in the aphasia literature and is considered a reliable measure (Beeson & Robey, 2006).  $d_{BS}$  is a variant of  $d_C$  and is easier to calculate (*ibid*) however does not account for the variance in the follow-up phase. Cohen's  $d$  applies weightings that enable it to pool the standard deviations of the baseline and follow-up phases (Turner & Bernard, 2006). However, both  $d_{BS}$  and  $d_C$  risk exaggerated results for smaller sample sizes ( $N \leq 20$ ) (Howard et al., 2015; Turner & Bernard, 2006). In this study, the total number of data points 'N' for each participant is  $\leq 6$ . In participants that display no variation in the baseline phase, it becomes impossible to calculate  $d_{BS}$ . Other estimates of effect sizes can be considered, such as by calculating the difference in the means between the baseline and follow up phase and dividing it by the pooled standard deviation of the baseline (Beeson & Robey, 2006; Howard et al., 2015). In this study, estimated effect sizes were necessary in the case of 1 participant (dyad 5) who showed no variance in the baseline phase in the SAQOL-39 of the PWA and in the SOC of the caregiver. Most of the existing methods of calculating effect sizes however are criticised for being at risk of autocorrelation (Archer et al., 2019; Turner & Bernard, 2006). The use of measures that might be influenced by autocorrelation compromises the validity of the findings and has historically been a problem for single subject designs (Archer et al., 2019; Howard et al., 2015). Studies have therefore used a combination of available data to calculate effect sizes. The data used to calculate the effect sizes in this study are reported in Appendix 12.

Interpretation of effect sizes depends on the equation used as well as the construct measured (Saldert et al., 2013). In the area of aphasia treatment, a starting point is offered by the effect sizes reported in the Robey et al., (1999) review of single-subject research in aphasia. With one extreme outlier removed from the effect sizes derived from 12 studies, the first, second, and third quartiles for the *d* statistic were 2.6, 3.9, and 5.8, corresponding to small-, medium-, and large-sized effects. These values offered initial benchmarks for the interpretation of the data in several studies in acquired alexia and agraphia (Beeson et al., 2005; Beeson & Egnor, 2006). However, due to the lack of consensus on the interpretation of reported effect sizes in studies measuring the effect of partner approaches, it is difficult to interpret what constitutes a small, medium, or large effect in terms of its impact on quality of life, sense of coherence and conversation. The effect sizes determined from this study have therefore been reported but lacks a statistically informed or theoretically sound interpretation.

#### **6.3.7.2 Transcription**

To facilitate exploration and analysis using Communication Accommodation Theory, the data obtained via the 40 video recorded conversations were transcribed verbatim, and carried out manually by the researcher to incorporate the verbal and non-verbal (e.g., facial expressions, gestures, pointing, writing, use of props) aspects of the recorded conversation. The recordings were transcribed and transliterated using the Jefferson system for transcription and the excerpts quoted in the findings section were translated to English..

The languages used by the participants were English, Kannada, Hindi, and Telugu. The researcher is proficient in English, Kannada and Hindi and conducted these transcriptions. The four recordings that were predominantly in Telugu were translated and transcribed with the support of a multilingual translator. A second rater who was blinded to the study, reviewed 10% of the video segments used for the purpose of analysis to ensure the reliability of the transcriptions. The prepared data was then analysed using qualitative and quantitative methods to strengthen the researchers understanding of the processes going on during conversation in action and the relation to preceding events and consequential accomplishments.

#### **6.3.7.3 Communication Accommodation Theory: sample codes and framework developed for analysis.**

This study applies the broader theoretical basis that CAT provides to formulate a contextually specific framework for the analysis of data in this study. The focus from a CAT perspective is on the impact of training primary caregivers on accommodation in communication within the dyad comprising the PWA and the primary caregiver.

CAT enables researchers to identify, describe and explain the relational and identity processes (Soliz & Giles, 2014) that make up interpersonal and intergroup interactions (Soliz & Bergquist, 2016). The ability of the CAT framework to be adapted and applied to various contexts is a major strength of the theory (Soliz & Giles, 2014). CAT has had little direct application in aphasia research but may offer aphasiologists an opportunity to gain insight into the uncertainty that surrounds the patterns of communicative interaction

between pWA and their CPs on a moment-to-moment basis. The theoretical framework has the ability to facilitate structured identification of facilitative (Simmons-Mackie, 2018) and nonaccommodative behaviours (Gasiorek, 2016a, 2016b) and suggest causal explanations for the associated self-imposed consequential communicative experiences (Giles et al., 2010). CAT has the unique ability to capture the way accommodation is grounded in the “accomplishment of actions as they unfold in interaction” (Gallois et al., 2016, p. 118).

The literature on CAT does not lay out a rigid framework for the investigation and the analysis of data when applying the theory owing to the heterogeneity in the application of CAT research. The heuristic nature of CAT can also be a drawback as the literature lacks consistency in the methods used (Giles et al., 2010; Soliz & Bergquist, 2016). This might risk variations in the conceptualization of what behaviours are considered as accommodative and non-accommodative (Soliz & Bergquist, 2016). While there is a lack of standardization in the categorization and labelling of communicative behaviours (*ibid*), this flexibility also lends itself to disciplinary specific application. Clear definitions of what qualifies as accommodative and non-accommodative behaviours is therefore crucial. Soliz and Bergquist (2016) suggest that while CAT provides researchers with a ‘macro theoretical’ framework, it is important to develop a contextually specific frameworks that may serve as satellite models for future application within specific disciplines. The specific applications and operational definitions used in the current study are further discussed in this section. While the application of CAT in qualitative, quantitative and mixed method research might mean extensive variations in methods, it highlights the value and strength of the theory.

### Coding & categorisation of communicative behaviour

Immersion in the data by reading and re-reading the transcripts was used to gain familiarity and insight. In consideration of the focus of the study, the generation of codes was carried out at three levels- communicative behaviour, accommodation strategy, type of accommodation and function of accommodation. Each category was assigned a distinct colour code. Figure 6.3 illustrates the colour coded format used to analyse the data.

| Speaker | Message | Translation | Communicative Behaviour | Sub. Strategy | Obj. Strategy | Social Value | Extent | Adjustment Type | Modality | Symmetry | Function/Purpose | Possible Predictor |
|---------|---------|-------------|-------------------------|---------------|---------------|--------------|--------|-----------------|----------|----------|------------------|--------------------|
| CP      |         |             |                         |               |               |              |        |                 |          |          |                  |                    |
| PWA     |         |             |                         |               |               |              |        |                 |          |          |                  |                    |

Figure 6.3 Colour coded format used for the qualitative analysis of the conversations using the CAT framework.

The generation of codes on communicative behaviour was influenced by the literature on supportive and obstructive communication behaviours (e.g., Kagan, 1998; Kagan et al., 2001; McVicker et al., 2009; Sorin-Peters, 2003, 2004b) for pWA as well as the content of the training provided during the intervention phase of the study. The coding for the remaining three categories was based on the literature on CAT (e.g., Dragojevic et al., 2016; Gasiorek, 2016b, 2016a; Giles et al., 2010; Giles & Ogay, 2007; Harwood et al., 2006; Tomsha & Hernandez, 2010). Tables 6.6 to 6.10 describe the operational definitions for the types of accommodation strategies, the types of accommodation, and the function of accommodation.



**Table 6.6 Operational definitions of types of approximation strategies**

|   |  |   |
|---|--|---|
| <b>Strategy</b> — This is the adjustment in the communicative behaviour observed. |  |   |
| <b>Approximation</b>  | Function to either achieve solidarity with the interlocutor or dissociate from the interlocutor by focussing on the linguistic aspects of communication. |   |
|   | <b>Definition</b>  | <b>Example</b>  |
| Convergence   | entail adjustments which result in communication behaviours which are more similar to those of the communication partner.                                | Conversation Partner uses gestures to reduce differences in communication modality used during conversation with a person with aphasia.   |
| Divergence  | entail adjustments which result in communication behaviours which are more different to those of the communication partner.                              | Conversation Partner uses fast paced verbal communication thereby enhancing the dissimilarities in communication modality from that of a person with aphasia.                     |
| Maintenance   | No adjustment in communicative behaviours. No effort is made to attune to the style of the communication partner.  | Conversation Partner maintains style of communication and does not adjust it to reduce differences in communication modality used during conversation with a person with aphasia. |

**Table 6.7 Operational definitions of types of non-approximation strategies**

|                             |   |   |
|-----------------------------|---|---|
| <b>Non-Approximation</b>    | Strategies that attend to the meaningfulness and the effectiveness of the communicative interaction by focussing on the transaction and interaction aspects of communication. |   |
|                             | <b>Definition</b>   | <b>Example</b>  |
| Interpretability Strategies | entail adjustments to enhance the ability of the interlocutor to comprehend the information content of messages exchanged during the communicative interaction.               | Conversation partner uses gestures and keywords to support the conversation with the PWA.   |
| Discourse Maintenance       | entails adjustments to communication behaviours that function to facilitate engagement in meaningful interaction  | Conversation Partner uses written keywords to support the PWAs ability to responsively interact and engage in conversation.   |
| Interpersonal Control       | entails adjustments to communication behaviours that serve to establish the role, relative power and control in a relationship and in conversations.                          | Conversation partner illegitimately assumes an authoritative caregiver role in conversation rather than engaging with the person with aphasia as a communication partner. |
| Emotional Expression        | entails adjustments to communication behaviours that result from concern about the feelings and emotions of the conversation partners.  | Conversation Partner adjusts tone and language to comfort and reassure the PWA.   |

**Table 6.8 Operational definitions of types of facilitative accommodation**

| <b>Type of Accommodation</b> —This refers to the nature of the adjustment which can be facilitative or obstructive to communication. |   |  |
|--|---|--|
|  | <b>Definition</b>   | <b>Example</b>   |
| Accommodation  | refers to the adjustment in communication that usually serves to improve the communicative interaction, reduce differences and enhance the meaningfulness and effectiveness of the communication.                                 | Conversation partner uses gestures and keywords to support the conversation with the PWA.  |
| Constrained Accommodation  | Refers to instances in which an individual makes adjustments in communicative behaviour but <b>not to the extent desired</b> , resulting in partial hindering of effective communication and/or increased social distance.        | Person with aphasia is able to partially adjust communication style to resemble the verbal style used by the communication partner but with reduced clarity/ meaningfulness/ sentence structure. |
| Reluctant Accommodation  | refers to the adjustment in communicative behaviour that occurs when an individual converges to the style of the interlocutor in consideration of the societal and hierarchical norms and not due a personal desire for affinity. | Conversation Partner attunes to the PWAs style of conversation owing to external factors such as the presence of the researcher in the room.   |

**Table 6.9 Operational definitions of types of obstructive accommodation**

| <b>Type of Accommodation</b> |  |  |
|------------------------------|--|--|
|                              | <b>Definition</b>  | <b>Example</b>   |
| Nonaccommodation             | refers to the adjustment in communicative behaviour that function to increase the social distance between interlocutors or hinder effective communication  | Conversation partner maintains verbal communication without any effort to support the PWAs ability to participate in conversation. |
| Unavoidable Nonaccommodation | Refers to instances in which an individual is <b>unable</b> to make adjustments in communicative behaviour, resulting in unavoidable hindering of effective communication and/or increased social distance | Person with aphasia is unable to adjusting communication style to the clear verbal style used by the communication partner.        |
| Avoidant Communication       | refers to the adjustment in communicative behaviour that occurs when an individual withdraws from participation in communication due to a prior negative experience, stereotypes, etc.                     | Conversation Partner tries to minimise the conversation or end the conversation to avoid continually engaging in conversation.     |

The transcripts were coded on a turn-by-turn basis. The identified and coded communicative behaviours were simultaneously associated with their corresponding accommodation strategy (approximation and non-approximation strategies) and categorised as belonging to a specific type of accommodation (accommodation, non-accommodation, reluctant accommodation, and avoidant accommodation). The function of the accommodation was also coded (Affective or Cognitive).

**Table 6.10 Operational definitions of the purpose or function of adjustment**

| Purpose of adjustment |   |
|-----------------------|---|
|                       | <u>Definition</u>   |
| <b>Social</b>         | Refers to adjustment that focuses on the social and relational identity aspects of communicative interaction.   |
| <b>Cognitive</b>      | Refers to adjustment that focuses on the comprehensibility and the accessibility of the information being shared during communicative interaction and serves to attain communication efficiency |

(Dragojevic et al., 2016; Gasiorek, 2016b; Tomsha & Hernandez, 2010)

The data from the interviews was used for the purpose of triangulation to provide more perspective and context to the findings obtained from the analysis of the conversational interactions as well as the SOC and the SAQOL measures. Further analysis of the data collected using semi-structured interviews will be carried out at a later stage following the PhD.

#### **6.4 Summary**

This chapter has described the ethical considerations and the procedures followed during the process of data collection for both phases one and two of this study. Details of the inclusion and exclusion criteria for participants, the participants recruited, the procedures followed for data collection, data preparation and analysis including the application of CAT to develop a coding chart and framework for qualitative analysis of communication within the dyads has been described and illustrated. Details of the tools used, and the intervention tested have also been provided. Further details of the study specific tools and the intervention materials which were adapted and developed are provided in the next chapter.

## 7 Adaptation and Cross-cultural Validation

This chapter describes the rationale for contextual and cultural adaptation of tools and interventions (sections 7.1 and 7.2). The procedures followed for the cultural adaptation and cross-cultural validation are then discussed with respect to the assessment measure that required adaptation - the 'Sense of Coherence - Orientation to Life Questionnaire- 13 items' (Kannada) (section 7.3); and the intervention protocol - The 'Communication Partner Training for Primary Caregivers of People with Aphasia in India' (CPT-In) (section 7.4).

### 7.1 Adaptation: Contextual and Cultural

There is a trend towards the globalisation of healthcare from the traditionally nationally focused services (Simmons-Mackie et al., 2017) with the objective of achieving healthcare equity across countries around the world (Global Network of WHO Collaborating Centres for Bioethics, 2015). In the field of aphasia rehabilitation, groups of researchers and aphasia-focused organisations (e.g., Collaboration of Aphasia Trialists, Aphasia United, Aphasia Access) have been working together to provide common guidelines for use by clinicians across countries (Simmons-Mackie et al., 2017). Speech Language Therapists (SLTs) working in resource-constrained contexts often draw on, and adapt, existing resources that have been designed and developed to cater to the needs of people from a different socio-cultural context (Chengappa & Kumar, 2008; Keshree et al., 2013; Kiran & Krishnan, 2013). While these evidence-based resources are not all culturally relevant across all contexts and lack relevance in a context like India (Karanth, 1989; Kaur, Bajpai, et al., 2017), they can be used as a reference framework to design culturally relevant resources. It is essential that resources used are specifically designed to suit the socio-cultural context or adapted to the socio-cultural and linguistic context in which they are being used (Kaur, Chopra, et al., 2017). The validity and reliability of the resources used is essential for the provision of quality care (Sousa & Rojjanasrirat, 2011) in any given context.

Resources developed for use on a specific population, are designed to cater to the needs of the individuals that make up the population. In this study, an evidence-based intervention approach (Conversation Partner Training) designed, explored, and implemented in minority world contexts (principally in the UK and Canada) was chosen to be implemented in India, an inherently different context—that of the majority world. In the field of rehabilitation, resources often include cultural references that are only relevant and applicable to the population for whom they have been designed. This was observed in the resources selected for use in this study. Definitions of living, life-satisfaction, happiness and general well-being individual goals, desires and expectations, beliefs, principles, outlook on life (Chadda & Deb, 2013), attitudes towards health and disability vary across cultures (Benomir et al., 2016; Helliwell et al., 2010; Oishi, 2010; Oishi et al., 2009; Veenhoven, 2010). It would have thus been inaccurate to assume that the chosen standardised resources or approach to rehabilitation, well researched and established in the context of the minority world would have been applicable when directly used or implemented in the socio-cultural context of India. It was therefore essential that we scrutinized the selected resources for both their contextual and cultural

relevance and applicability and thereafter, altered the content and design to cater to the needs of the population with whom the resource was to be used.

When it comes to interventions, adaptations may involve changing terminology and the language used for delivery to make it more culturally and linguistically relevant or altering elements of the intervention that may not be appropriate in the context for which it is being adapted for implementation (Stirman et al., 2013). Contextual modifications may extend to modifications of the setting, the mode of delivery, the recipient cohort and also includes the steps and preliminary work needed to actually deliver the intervention (*ibid*). The process of adaptation typically involves consulting an expert or team of experts (well-versed in the theoretical and contextual domain as well as the socio-cultural context) (Kiran & Krishnan, 2013; Sousa & Rojjanasrirat, 2011) on the contextual and cultural relevance of the resource to be adapted; Gaining a deeper understanding of the socio-cultural context; Careful modification of the items regarded as contextually (Stirman et al., 2013) and culturally (Kiran & Krishnan, 2013; R. Raju & Krishnan, 2015) irrelevant and thereafter, subjectively evaluating (Huck, 2012) the contextually, socio-culturally and linguistically adapted version of the original resource. For evidence based interventions, evaluating the adapted version is extremely important as while the adaptation is intended to improve the suitability and applicability of the instrument, the adaptations may risk compromising on the treatment integrity (Stirman et al., 2013). In addition to planned adaptations, there are often modifications made to the intervention delivery owing to challenges faced by the provider owing to unprecedented contextual constraints (*ibid*). Knowledge of these modifications is important when studying and exploring outcomes and the impact of the intervention delivered. It is also important to ensure that the modifications made are acceptable in relation to the original intervention (*ibid*).

## **7.2 Cross-Cultural Validation**

Established instruments developed in a given cultural context, when adapted for use across diverse socio-cultural contexts, warrant a need for the instruments to be cross-culturally validated (Sousa & Rojjanasrirat, 2011). Cross-cultural validation is the process of translation and validation following the cultural adaptation of established tools (Küçükdeveci et al., 2004). The validity of an instrument refers to the extent to which an instrument measures or delivers what it purports to (Huck, 2012). The validity of an adapted interventional tool thus refers to the extent to which each aspect of the intervention correlates to its desired outcome (content validity). The cross-cultural validity of the adapted intervention tool would refer to the extent to which its concepts correlate to the concepts of the original tool as well as the extent to which the desired outcomes of the adapted intervention tool correlate to that of the original tool.

## **7.3 Sense of Coherence - Orientation to Life Questionnaire- 13 items (Kannada)**

For this study, the SOC-13 item scale was used to measure sense of coherence (described in section 6.3.5). Permission to adapt the instrument from the original author was not obtained owing to his death (M Eriksson & Lindstrom, 2006). A systematic review of the validity of the SOC measures revealed adaptations in over 33 languages (Monica Eriksson & Lindström, 2005). The authors of the review concluded that no new version required to be made and no further testing of the instrument was required. However, the lack of

availability of the tool in the language used for this study, i.e., Kannada, warranted a translation of the instrument. Further the lack of availability of the tool in a context similar to the socio-cultural and linguistic context of India, prompted evaluation of the items for cultural relevance. In addition, in consideration of the age of the scale, it was important to review it (Holmefur et al., 2015) for its relevance to the socio-cultural and linguistic context of India. The adaptation of the scale was only cultural and linguistic. The constructs have otherwise been reported to be reliable, valid, feasible, and cross culturally applicable (Monica Eriksson & Lindström, 2005, p. 463).

The items of the Sense of Coherence - Orientation to Life Questionnaire were screened for their relevance to the socio-cultural and linguistic context of India. This was carried out by two speech language therapists with experience in the context of India and an individual well versed in the target language (Kannada), as well as the socio-cultural context of India. The items included in the instrument refer to one's perception of self and their position in society, their experiences and level of participation. The items are categorized into the three subcomponents of Sense of Coherence (SOC) – comprehensibility, manageability and meaningfulness which are intertwined with one another (Antonovsky, 1996). While the individual and binding ideas that form the basis for the 13 items that comprise the SOC instrument were found to be relevant and applicable to the socio-cultural context of India, the wording used in some items of the original instrument required simplification to enhance the comprehensibility of the items. One item— *item 10* required simplification of the idiom used. Here 'sad sacks or losers' in the original instrument in English Language was modified to 'failures' in the adapted instrument in Kannada.

The translation of the instrument from the source language (English) to the target language (Kannada) followed a forward – backward translation scheme while incorporating the guidelines recommended by Sousa and Rojjanasrirat (2011). This method of translation of instruments is frequently used in the Indian aphasia literature (e.g., Kaur, Chopra, et al., 2017; Kiran & Krishnan, 2013; Mitra & Krishnan, 2015). Two groups of translators were chosen comprising bi-literate individuals (allied health professionals and non-health professionals) with experience in the socio-cultural context of India. The first group comprised two translators, one of whom was an allied health professional. This group carried out the forward translation of the instrument, i.e., from the source language (SL)-English to the target language (TL)-Kannada. The second group comprised three translators, two of whom were allied health professionals. This group carried out the backward translation from the TL to the SL. The forward and backward translations were carried out individually and any discrepancy between the translators within each group was addressed by further discussing with the translators about their understanding of the concepts underlying the items. The final version of the forward translation was sent to the second group of individual translators for backward translation. The final version of the backward translation was reviewed for linguistic suitability in the TL as well as for conceptual, semantic and content equivalence. This was carried out by a group of bi-literate individuals experienced in the socio-cultural context of India. This group was asked to suggest modifications/ revisions where necessary. Three items required modification to preserve the semantic and conceptual equivalence of the items. These suggestions were shared with the translators and the above steps for forward and backward translation were repeated. Once the socio-culturally and

linguistically adapted back translated version of the instrument was deemed suitable, it was sent to a group of aphasia clinicians and researchers with expertise in the psychosocial aspects of aphasia and familiar with Antonovsky's theory of salutogenesis (through the Collaboration of Aphasia Trialists working group 5), to conduct further content validation of the instrument. The expert group was asked to provide comments, revisions or suggestions on the items, the instructions, and the response format of the translated instrument.

The table 7.1 indicates the conceptual, semantic, and content equivalence of each of the 13 items which was established by an expert group of aphasiologists (members of the Collaboration of Aphasia Trialists) with expertise in the concept of salutogenesis, during the process of forward and backward translation of the instrument from the original English version to the socio-cultural and linguistic adaptation of the instrument in Kannada. Definitions of conceptual, semantic and content equivalence taken from the user-friendly guideline by Valmi D. Sousa and Wilaiporn Rojjanasrirat (2011) are outlined below:

**Conceptual equivalence:** Extent to which the concept of each item is present in the source and target cultures.

**Semantic equivalence:** Extent to which the sentence structure, clarity of wording and the colloquialisms used to maintain the meaning or the concept of each item across both-source and target cultures exists in both the source and target languages.

**Content equivalence:** Extent to which the idea of each item of the instrument is relevant in both the source and target culture.

**Table 7.1 Conceptual, Semantic and Content Equivalence of SOC-13 and SOC-13 (Kannada version)**

| Item No. | Conceptual Equivalence | Semantic Equivalence | Content Equivalence | Additional Comments |
|----------|------------------------|----------------------|---------------------|---------------------|
| 1.       | Y                      | Y                    | Y                   |                     |
| 2.       | Y                      | Y                    | Y                   |                     |
| 3.       | Y                      | Y                    | Y                   |                     |
| 4.       | Y                      | Y                    | Y                   |                     |
| 5.       | Y                      | Y                    | Y                   |                     |
| 6.       | Y                      | Y                    | Y                   |                     |
| 7.       | Y                      | Y                    | Y                   |                     |
| 8.       | Y                      | Y                    | Y                   |                     |
| 9.       | Y                      | Y                    | Y                   |                     |
| 10.      | Y                      | N                    | Y                   | Wording simplified  |
| 11.      | Y                      | Y                    | Y                   |                     |
| 12.      | Y                      | Y                    | Y                   |                     |
| 13.      | Y                      | Y                    | Y                   |                     |
| Overall  | Y                      | Y                    | Y                   |                     |

Y- Equivalence present; N- Equivalence absent

The feedback provided by the expert group was reviewed for its relevance to the linguistic characteristics of the language and the cultural context of India. The feedback was accordingly incorporated in consultation with some of the translators involved in the forward and backward translation of the SOC instrument. The items to be modified, underwent further adaptation where appropriate to maintain the conceptual/ content/

semantic equivalence of the instructions and the response format. The modified items then once again underwent the steps for forward and backward translation as described above. This thorough process ensured the quality of the cultural and linguistic adaption of the SOC-13 instrument for use in this study and thereafter for use in clinical and research purposes in the socio-cultural context of India. Final version used in the study is presented in appendix 9.

#### **7.4 'Communication Partner Training for primary caregivers of People with Aphasia in India'**

This section describes the adaptation and the cross-cultural validation of the intervention protocol and materials to develop CPT-In. The content of the training has been adapted, with permission, from the 'Communication Partner Toolkit' (McVicker, 2007) developed by Connect: The Communication Disability Network. Research on the family involvement in healthcare in the Indian scenario (Alim et al., 2016; Dalal, 2002; Nunley, 1998), healthcare and the rehabilitation in the Indian scenario (Kumar et al., 2012; WHO, 2011) and specific to aphasia (Karanth, 1989, 2012; R. S. Raju et al., 2010) as well as the investigators experience in this context have informed the adaptation. The philosophical basis and conceptual aspects underlying the content is thus similar to that of the 'Communication Partner Toolkit' (McVicker, 2007), but the content itself is substantively different owing to the differences between the sociocultural contexts wherein the two tools were developed.

The modification framework (FRAME) proposed by (Stirman et al., 2013, 2019) is applied to describe the adaptations and maintenance of the fidelity of the intervention (see fig. 7.6). FRAME offers a comprehensive coding system, which when viewed alongside findings from the impact of the intervention delivered might inform future research and clinical practice on what modifications work best to enhance the impact or effectiveness of the intervention (Stirman et al., 2013) when implementing it in a novel socio-cultural context, distinguishable from that for which it was originally designed. The framework allows understanding of what specific modifications might be responsible for reduced fidelity as well as what modifications are permissible while maintaining an acceptable level of fidelity (Stirman et al., 2013). It also includes a specific sub-category for cultural modifications in consideration of factors at the level of the recipients, the provider and at the organisational and socio-political levels (Stirman et al., 2019). The careful documentation of adaptations should inform further research on implementation of this approach in other majority world contexts.

FRAME (Stirman et al., 2013, 2019) outlines those adaptations of interventions that must be reported, each of which are discussed in the sections that follow:

- (1) when in the process of implementation and how the modifications were made (see sections 7.4.1 – 7.4.5);
- (2) Whether the modifications were planned or unplanned (see sections 7.4.1 and 7.4.5);
- (3) Who participated in the decisions to make the modification (see sections 7.4.1 – 7.4.5);
- (4) What is modified (see sections 7.4.1 – 7.4.5);
- (5) The level of delivery at which the modifications were made;



- (6) Nature of contextual modification (see sections 7.4.1 – 7.4.3);
- (7) Nature of content modifications (see sections 7.4.1 – 7.4.3);
- (8) The extent to which the modified intervention is fidelity-consistent (see section 7.4.6);
- (9) The reasons for the modification, including (a) the intent or goal of the modification (e.g., to reduce costs) and (b) contextual factors that influenced the decision.

#### **7.4.1 Overview of adapting and developing CPT-In— When, how, by whom and what?**

The modifications made to the intervention were predominantly made prior to implementation. To carry out the adaptation of the ‘Communication Partner Toolkit’ (McVicker, 2007), the investigator first underwent training in the Communication Partner scheme (McVicker et al., 2009) facilitated by the project supervisor with permission from the author of the scheme – Sally Mc Vicker. Following this, the investigator examined the toolkit for its relevance to the social, cultural, and linguistic context of India as well as for its suitability when applied to training primary caregivers of people with aphasia (pWA) as Communication Partners (CPs) to make the relevant modifications. The original scheme was designed to train volunteers (students or people from the community) as CPs for the pWA (McVicker, 2007; McVicker et al., 2009). The relationship between the pWA and their trained CPs in the target context would thus significantly differ from that in the original scheme adapted for use in this study. The age-group of the CPs in training would also differ between the target context (adult family members, specifically including older adults who are likely to represent the spouses of pWA) and the original scheme (20-40 years). The differences in the two contexts would thus warrant significant modification to the nature and the design of the training to be provided. A significant amount of contextual and content modifications was therefore proactively made to enhance the fit of the intervention in the context explored—primary caregivers of pWA living in India. These modifications must be distinguished from those made when the implementation was already underway (Stirman et al., 2013, 2019), described in section 7.4.5.

The Communication Partner Toolkit (McVicker, 2007) comprises 7 modules. The ‘Communication Partner Training for primary caregivers of People with Aphasia in India’ was developed by adapting module 3 (Training volunteer partners) of the toolkit. The majority of the other modules relate to issues relevant for the training of volunteers (e.g. health and safety) or the setting up of a Communication Partner scheme (e.g. managing volunteers) and were therefore not deemed relevant for the current project which focuses on training primary caregivers. The decision to not include these modules was taken by myself, as the principal investigator. The CP toolkit included a module dedicated to training pWA themselves as trainers and collaborators in the training of the volunteers (module 1); a module dedicated to the training of the volunteer CPs (module 3); modules comprising of resources to be used by and for the volunteers, resources to be used by the trainers with aphasia, documentation for making referrals (modules 2, 4, 5, 6) and resources to guide the management of the Communication Partner scheme (module 7). The training (module 1) and involvement of pWA as trainers, an important element of the scheme (*ibid*), was not incorporated at this stage.

#### **7.4.2 Adaptation of training methods & treatment delivery—what, when, how and by whom?**

The training of CPs in the original scheme using the CP toolkit followed a pedagogic approach which aimed to maximise learner participation and draw out experience by engaging the participants in an open sharing of experiences and thoughts, observations, reflections and experiential learning. The adaptation for the Indian context also followed principles of adult learning. Acknowledging the expertise of the participants as family members of pWA and sharing this by facilitating participant-led discussion with other adults who have had similar experiences, encourages active involvement of the adults, enhances their learning and is in line with adult learning principles (Bryan et al., 2009; Kolb, 1984). At the end of the training, it is important that the participants feel empowered and equipped to engage in more successful conversations with their primary caregivers or family members with aphasia. Decisions regarding adaptations to the training methods and delivery of the training were taken by the principal investigator and the thesis supervisor in consideration of the socio-cultural context and the population to whom the training would be delivered. Further modifications between training days (e.g., individual and group sessions) were also made— these modifications however were owing to the un-precedented circumstances and were therefore not pre-planned. Such unplanned adaptations are addressed in section 7.4.5.

#### **7.4.3 Adaptation of module 3 of the Communication Partner Toolkit (McVicker, 2007)**

Module 3 of the CP Toolkit (McVicker, 2007) comprises three sessions which cover (1) 'Disability equality', (2) 'Becoming a Communication Partner' and (3) 'Health and safety'. The first two sessions were adapted for this project, with 'health and safety' being relevant to volunteers rather than family members. The aim of session 1 is to ensure the trainees develop an understanding of the impact of environmental factors on disability and the social model perspectives on disability and health with a general focus on aphasia. Session 2 has two parts to it – *communication partner skills* and a *practical session*. The first part aims at understanding conversation, the impact of aphasia on conversation and training the volunteers in the use of skills and strategies to support conversation. The second part provides the volunteers with an opportunity to engage in conversation with the trainers with aphasia and receive direct feedback from the trainers. Figure 7.1 demonstrates the outline of module 3 of the CP Toolkit in comparison to the CPT-In manual.

The adapted CPT-In manual (see appendix 13) outlines a script for the training of the primary caregivers of the pWA as CPs and provides resources (see table 7.3) for use in the training. The training involves a one-day workshop comprising five modules spread across five sessions for the primary caregivers of pWA. The choice of a one-day workshop is so it can be easily rolled out in consideration of the challenges with availability of family members to be present (Karanth, 2012) for more than one session. The training includes a session on aphasia, a session on family involvement in rehabilitation, a session on the communication techniques, a practical session including role play activities and a final session where the participants can share their experiences, queries, thoughts and feedback. Each module has subsections which have a specified purpose, laid out to guide the facilitators. The modules and their subsections are described in this section and summarised in table 7.2.

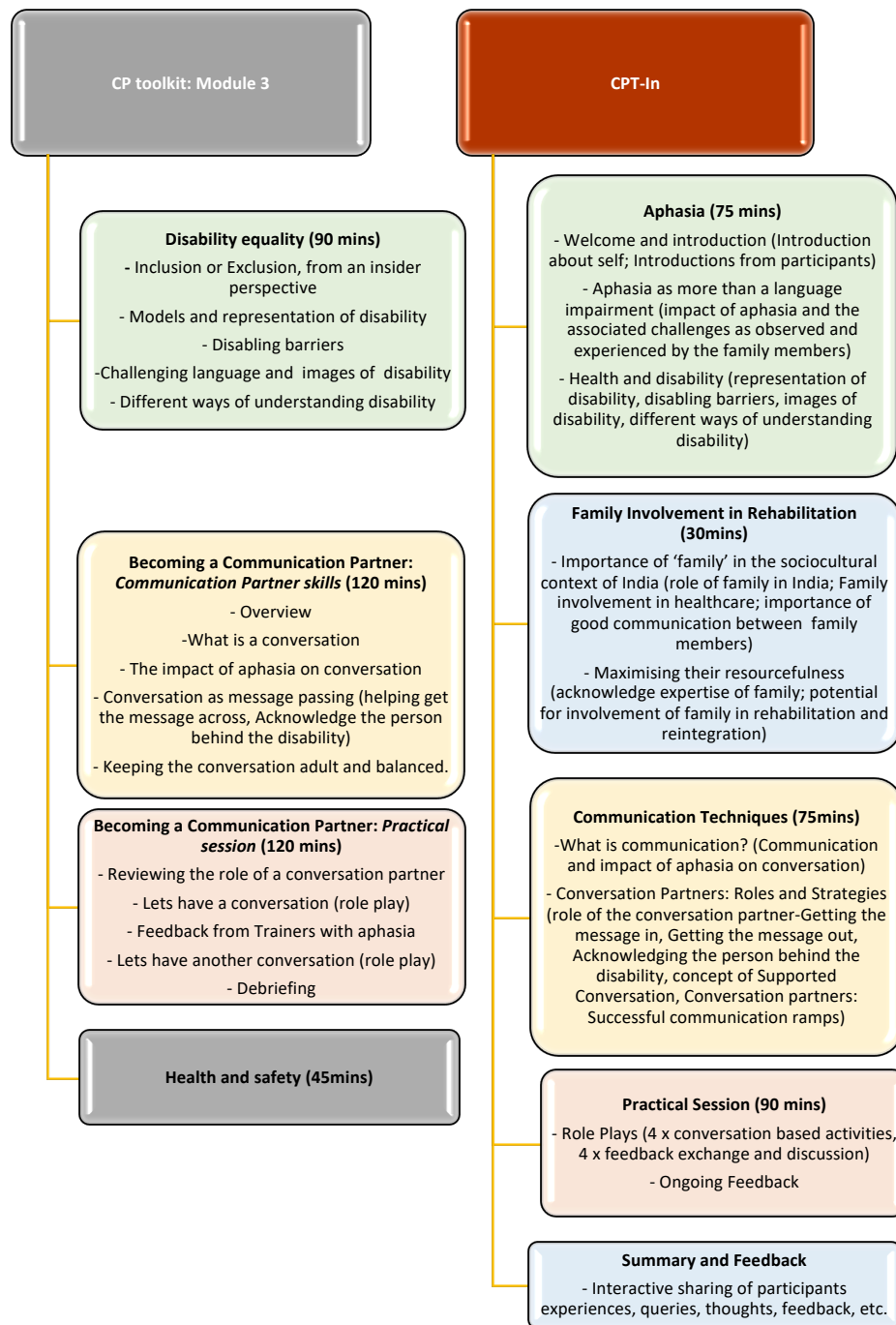


Figure 7.1 Outline of Module 3 of the CP-Toolkit and CPT-In.

**Table 7.2 Summary of training modules**

| Module No.  | Modules and subsections   | Purpose   | Duration          |
|---|---|---|-------------------|
| <b>1</b>  | <b>Aphasia</b>  |   | <b>75 minutes</b> |
|   | 1.1 Welcome and Introduction  | a) To create a welcoming space and sense of hospitality and to get to know the participants' contexts and their experiences with aphasia.   | 15 minutes        |
|   | 1.2 Aphasia as more than a language impairment  | b) To create a participant led discussion on the impact of aphasia and the associated challenges as observed and experienced by the family members.   | 30 minutes        |
|   | 1.3 Health and Disability   | c) To facilitate a discussion on health and disability in line with the social model.<br>d) To facilitate learning through reflection on these shared experiences.  | 30 minutes        |
| <b>2</b>  | <b>Family Involvement in Rehabilitation</b>   |   | <b>30 minutes</b> |
|   | 2.1 Importance of 'family' in the sociocultural context of India.                     | a) To guide and create a participant led discussion on the importance of family in the sociocultural context of India.  | 15 minutes        |
|   | 2.2 Maximising their resourcefulness  | b) To facilitate reflection on the discussion.  | 15 minutes        |
|   |   | c) To acknowledge the expertise of the family members   |                   |
|   |   | d) To create awareness about the roles and the potential for the involvement of the family members in the rehabilitation and reintegration of pWA.  |                   |
| e) To facilitate learning through reflection on the information generated through discussion. |   |   |                   |
| <b>3</b>  | <b>Communication Techniques</b>   |   | <b>75 minutes</b> |
|   | 3.1 What is communication?  | a) To establish that communication is not just verbal or about transmitting information but about connecting with other communication partners in a social context.   | 30 minutes        |
|   | 3.2 Conversation Partners: Roles and Strategies                                       | b) <i>To establish the roles and responsibilities of a conversation partner</i>   | 45 minutes        |
|   |   | c) <i>To facilitate learning of the conversation partner strategies through reflection on ongoing observations and shared knowledge.</i>  |                   |
| <b>4</b>  | <b>Practical Session</b>  |   | <b>90 minutes</b> |
|   | 4.1 Role Plays  | a) To encourage the participants to put together what is observed and what is recalled in practice.   | 80 minutes        |
|   | 4.2 Ongoing Feedback  | b) To facilitate learning through observation and experience.   | 10 minutes        |
| <b>5</b>  | <b>Summary and Feedback</b>   |   | <b>30 minutes</b> |
|   | 5.1 Interactive sharing of participants experiences, queries, thoughts, feedback, etc | a) To enable the participants to engage in an open sharing of experiences, feedback, etc.<br>b) To enable the participants to clarify queries, raise concerns and seek solutions to specific issues related to the approach and the training provided.<br>c) To facilitate reflection on their experiential learning.<br>d) To encourage the participants to put together what is observed and what is recalled moving forward. |                   |

**Module 1: Aphasia** has been adapted from the health and disability section of Module 3 of the CP toolkit (McVicker, 2007). It comprises three subsections including an

introductory section. This module focuses on maximising learner participation and drawing out experience from the participants which will set the scene for the training to follow. In this module, the facilitator must support participant led discussions as well as inform them through discussion about the importance and the potential for their involvement in the rehabilitation and reintegration of their family members with aphasia. Facilitated reflection on their shared experiences as well as the wider knowledge gained during this session will enable the participants to engage in experiential learning (Kolb, 1984). The subsections in the adapted module include— 1. *'Welcome and Introduction'*; 2. *'Aphasia as more than a language impairment'* and 3. *Health and Disability*. In session 1, the aim was to create a welcoming space and sense of hospitality to get to know the participants' contexts and their experiences with aphasia. It was important that the participants felt safe and comfortable to engage in participant led discussions on the impact of aphasia and the associated challenges as observed and experienced by them. Session 2 was designed to facilitate the sharing of experiences and was also envisaged to foster a sense of solidarity or shared struggles and stimulate reflective thinking about the perceived impact and "consequences of aphasia" (Simmons-Mackie et al., 2017) beyond that which is typically addressed in the Indian context—the focus on the 'language impairment'. Session 3 in this module aimed to facilitate a discussion on health and disability. This session focuses on the concept of disability equality, understanding the social model perspectives of disability and increasing awareness and identifying unfair obstacles (including physical, communication, attitudinal, temporal and other environmental barriers) for people with disabilities.

These elements were similar to the session on 'health and disability' in the original toolkit. Session 3 in the adapted toolkit, also focuses on third party disability (Grawburg et al., 2013, 2014) and the impact of aphasia on family members in this context. This addition was essential as the family members themselves are training to be CPs. It is important that the family members reflect upon their own needs as well (Grawburg et al., 2014). This element will enable them to understand and think about what they could do to make a difference and enhance their ability to minimize the disabling environmental barriers. The sessions/modules in both toolkits facilitate reflection and discussion surrounding disability and health by using images and sharing media stories about people with disabilities relevant to the respective socio-cultural contexts. The photographic images used as examples during discussion in session 3 focus on disability in general and lack specific media stories of people living with an acquired communication difficulty such as those used in the 'health and disability' session of the CP-Toolkit. The lack of culturally relevant publicly known examples of people living with acquired communication disabilities in India is aligned with the understanding that communication disability and particularly aphasia is not acknowledged to be as much a priority as are other visible disabilities. This disparity is evidenced in the Indian literature on neurological disorders (Pauranik, 2020) and reiterates the need for this session on aphasia and introducing the social model perspectives on health and disability.

**Module 2: Family involvement in rehabilitation** is an added novel component developed specifically for the training of family members in the socio-cultural context of India. It comprises two subsections which focus on drawing out knowledge and experience from the participants as well as acknowledging their resourcefulness. The subsections in this

module include— 1. *'Importance of 'family' in the sociocultural context of India'* and 2. *'Maximising "your" resourcefulness'*. Similar to module 1, facilitated reflection on their shared experiences as well as the wider knowledge gained during this session is used to enable the participants to engage in experiential learning. The first session within this module is designed to guide and create a participant led discussion on the importance of family in the sociocultural context of India. The purpose of the second session was two-fold— To acknowledge the expertise of the family members and to create awareness about the roles and the potential for the involvement of the family members in the rehabilitation and reintegration of pWA. The focus on training, supporting and including family members in the process of rehabilitation is supported by the "Top Ten Best Practice Recommendations for Aphasia practice" (Simmons-Mackie et al., 2017). In this module, the activities in subsection 1 focused on facilitating reflection through discussion, while that in subsection 2 focused on learning through reflection, on the information generated through discussion.

**Module 3: Communication techniques** is an adaptation of part 1 of session 2 of the communication partner toolkit (McVicker, 2007) - 'Becoming a Communication Partner'. The purpose of session 3 using module 3, was to establish that communication is not just verbal or transmitting information, but about interactively connecting with other CPs in a social context. This module on communication techniques comprises two subsections which focus on sharing knowledge and experience about communication and conversation and on training the participants to be effective CPs for their family members with aphasia: 1. *'What is communication?'* and 2. *'Communication Partners: Roles and Strategies'*. In the first half of this module, the facilitator guides discussion on the essence and the importance of conversation. In the second half, the participants learn the use of appropriate strategies to effectively support conversation for their family members with aphasia. The second half of this module focussed on the roles and responsibilities of a CP and on the specific communication strategies, through reflective discussion based on ongoing observations and the information and experiences shared. The resources developed to compliment the training procedures in this module are listed in table 7.3

**Module 4: Practical session** is an adaptation of part 2 of session 2- 'Becoming a Communication Partner' from module 3 of the CP toolkit (McVicker, 2007) and is a practical module which focuses on encouraging the participants to put their learning into practice. This module comprises two subsections: 1. *'Role Plays'* and 2. *'Ongoing Feedback'*. The purpose of the role plays was to encourage the participants to practice and apply their learning, with opportunities to observe others. The second subsection in this module offers an opportunity for the facilitator to undertake informal observation-based assessment of the participants' conversations and provide feedback as relevant.

During the practical session, participants were invited to engage in role play activities where each participant was provided an opportunity to take on the role of a person with aphasia and that of a CP. In the original scheme, volunteers in training are provided an opportunity to practice their learnt skills with pWA who are involved as trainers in the scheme. Each conversation is then followed by feedback provided by the trainer with aphasia. In the adapted version used in this study, 'Communication Partner Training for primary caregivers of People with Aphasia in India' trainers with aphasia were not

involved, for the reasons outlined previously (see section 7.4.1). Here, the conversations were between a pair of family members of pWA, participating as learners in the study. During this session, the facilitator took a back-seat role and made note of certain observations based on the ongoing conversations as a part of the role play activities. Feedback based on the observations was then provided to the participants after each role play activity. The resources (table 7.3) used to compliment the training procedures in this module include 4 sets of role play outlines as provided in appendix F of the manual and a Communication Partner observation sheet (appendix G of the manual) adapted from session 2 of module 3 (Tool 3.06) of the CP toolkit (McVicker, 2007).

**Module 5: Summary and feedback** is an added component developed specifically for the training of family members in the socio-cultural context of India. The purpose of this module is to enable the participants to engage in an open sharing of experiences, feedback; to enable the participants to clarify queries, raise concerns and seek solutions to specific issues related to the approach and the training provided; to facilitate reflection on their experiential learning and to encourage the participants to put together what is observed and what is recalled to moving forward. During this session, the facilitator provides the participants with information about the ongoing support that will be provided. This summary session invites feedback and comments from the participants and is concluded with final comments and feedback from the facilitator or the team of facilitators as relevant.

#### **Training resources**

To support the training, the trainer used the facilitators guide to train the primary caregivers as CPs for the pWA living in India. The facilitators guide includes a manual with the five modules that comprise the training, appendices to support the manual, a Power Point presentation developed for use in this study and stationery (paper, pens, pencils, envelopes) to support the ongoing discussions. A list of the resources developed for use in this study are presented in table 7.3. The manual comprising the five training modules has been highly scripted to support fidelity by way of adherence to the constructs when implementing the intervention across sessions and providers (SLTs). Scripting has previously been used for similar training purposes and was used by Kagan (Kagan, 1999) in her doctoral study on 'Supported Conversation for Adults with Aphasia<sup>TM</sup>'. The power point presentation comprises slides with images, information and videos to support the ongoing training. The images used across sessions and resources were culturally relevant. Some of the images were drawn specifically for use in this study. Some examples of the images developed for use in the study are illustrated in figures 7.2 and 7.3. In addition, some culturally and contextually sensitive infographics were developed to demonstrate the concept of health, disability and the environment. Examples of these infographics are presented in figures 7.4 and 7.5. The culturally relevant video recordings were developed from the pilot study of CPT-In. The eight appendices of the toolkit (A-G) include a list of introductory questions and transition sentences to facilitate the discussions; training material adapted from the 'Communication Partner Toolkit' (McVicker, 2007) and examples of role pay activities for use during the practical session.

**C3Table 7.3 Resources developed for CPT-In**

| Resource   | For use with module No. | Thesis Appendix No.           |
|--|-------------------------|-------------------------------|
| Adaptations  | Pre-Implementation      | Appendix 14                   |
| Training Manual (Scripted for use by the researcher/clinician).  | 1-5                     | Appendix 13                   |
| Training Presentation  | 1-5                     | Appendix 15; Digital Resource |
| CPT-In Appendix A: Sample phrases and sentence starters to facilitate discussions  | 1-5                     | Appendix 16                   |
| Miscellaneous: Stationery (paper, pens, pencils, envelopes), Calendar.   |                         | N/A                           |
| CPT-In Appendix B:<br>1. Challenges<br>2. What are the implications of the listed challenges?<br>3. Functioning and disability – “results of the interaction between the health conditions of [a] person and their environment” (WHO, 2007).<br>4. What are the implications for practice?   | 1                       | Appendix 16                   |
| CPT-In Appendix C<br>1. Importance of Family in the sociocultural context of India<br>2. Importance of good communication between family members<br>3. Family Involvement in healthcare<br>4. Resourcefulness of the family members  | 2                       | Appendix 16                   |
| CPT-In Appendix D*<br>1. What is conversation?<br>2. How would it feel if you ‘lost’ the ability to engage in conversation? List the emotions and impact.<br>3. What role does Conversation play in our daily lives?<br>4. What are the different modes of communication?<br>5. What conversations have you had this week?<br>6. The impact of aphasia on conversations. | 3                       | Appendix 16                   |
| Video-recorded conversations of pWA and their primary conversation partners before and after exposure to CPT-In.   | 3                       | Digital Resource              |
| CPT-In Appendix E*<br>1. The role of the conversation partner without aphasia<br>2. Getting the message in<br>3. Getting the Message Out<br>4. Acknowledging the person behind this disability   | 3                       | Appendix 16                   |
| CPT-In Appendix F<br>Practice Scenarios x 8 (4: Versions for PWA**, 4 Versions for the CP**).  | 4                       | Appendix 16                   |
| CPT-In Appendix G: Conversation partner observation sheet<br>1. Supports the conversation<br>2. Keeps the conversation adult, balanced and natural<br>3. Any other comments or queries about the conversation?<br>4. Two tips for what they could do better/differently next time?   | 4                       | Appendix 16                   |
| * Adapted from tools 3.02, 3.03, 3.04 and 3.05 of the CP-toolkit;<br>**Roles undertaken by the participants solely for this activity.  |                         |                               |



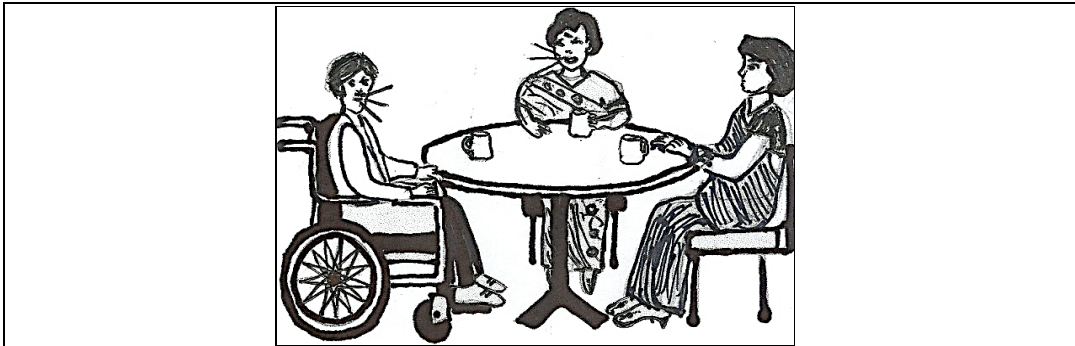


Figure 7.2 Used in session on family involvement in rehabilitation (module 2, session 1)



Figure 7.3 Used in session on Aphasia (module 1, session 2)

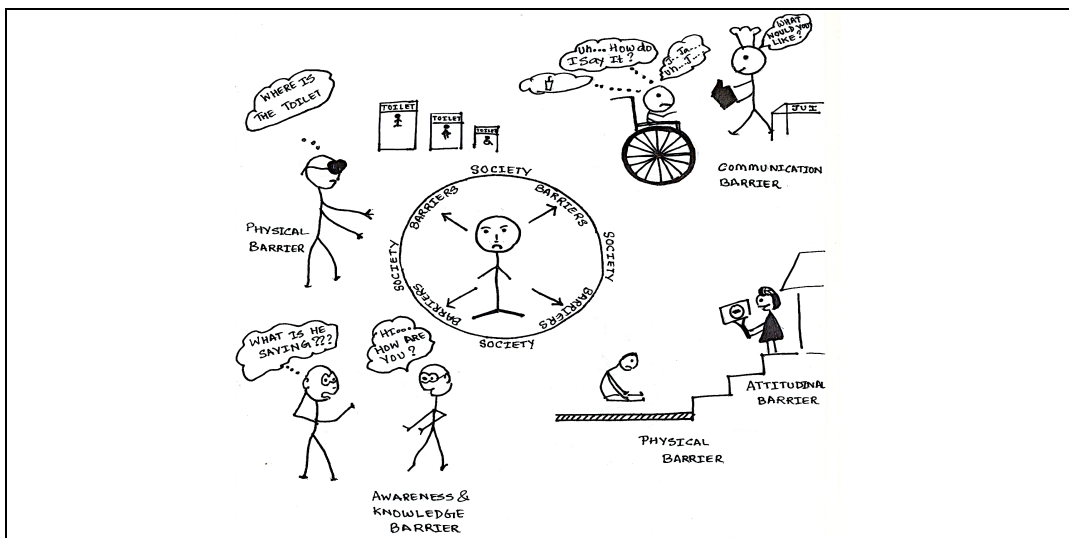
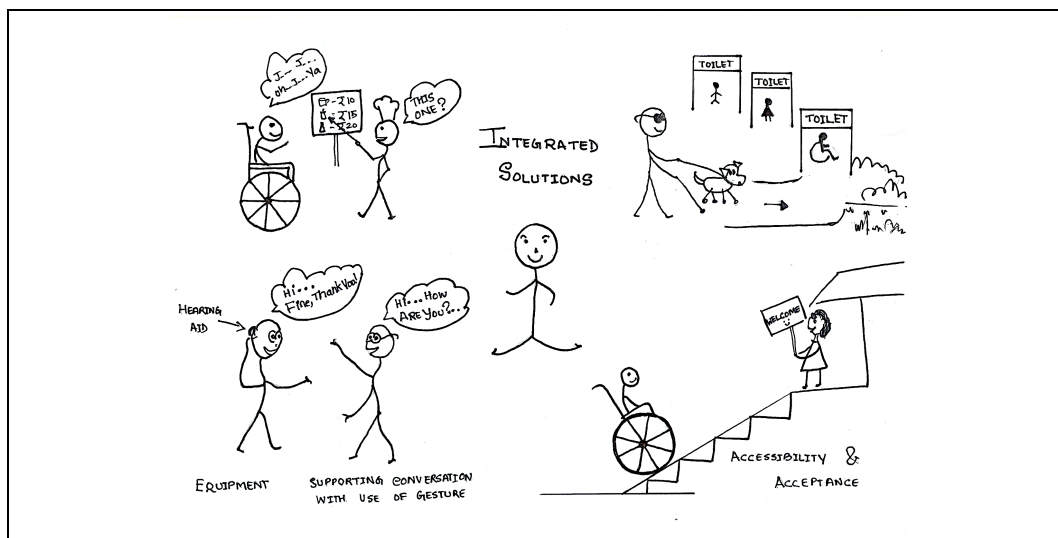


Figure 7.4 Used during discussion on disabling barriers in session on health and disability (module 1, session 3)



**Figure 7.5** Used during discussion on social reintegration and participation of people with disabilities in session on health and disability (module 1, session 3)

#### 7.4.4 Linguistic Adaptation

Following the cultural adaptation and development of CPT-In, linguistic adaptation was required. This followed the same procedure as that followed for the SOC. The forward-backward method of translation is used by researchers in the Indian context (Kiran & Krishnan, 2013; R. Raju & Krishnan, 2015) and recommended by the WHO for the translation and adaptation of instruments from English to other languages (World Health Organization, n.d.).

#### 7.4.5 Unplanned adaptations

The challenging and complex context that was explored offered further challenges when implementing the adapted intervention. The challenges prompted further modifications while implementation was already underway. These adaptations are described in table 7.4. The adaptations included— (a) Differences in the setting(s) used for delivery of the CPT-In training across the five ‘training days’; (b) Conducting both individual and small group sessions as opposed to only small group sessions—2 small groups and 3 individual sessions. Of the three individual sessions, two involved attendance by 2 family members from the same household. In addition, the inclusion of the dyad from the pilot study involved a one-one session with the only family member living within the household. (c) Involvement of a facilitator in some sessions; (d) Reduction in the training time of some sessions and (e) Allowing dyad specific discussions. During the sessions that facilitated discussion rounds as described earlier, there were often questions posed by the participants. This was specifically prevalent in sessions under Module 3 wherein CP skills and strategies were taught. The questions often entailed clarifications specific to the dyads they represented and resulted in brief periods of going off script to facilitate the discussions and clarifications. Such drifts are expected to be present in the context of real-world implementation of this intervention. The duration of each drift, however, was always as long as the question was required to be in discussion before switching back to the manualised script. Owing to the small-group and individual nature of training, drifts

often resulted in further tailoring the intervention to the specific dyad. For one triad where the PWA had right hemisphere damage, additional tailored strategies regarding and restricted to positioning of resources within the visual field of the PWA or restricting the written supports on one side of the sheet used so as to ensure it is within the PWA's visual field. This modification may have affected outcomes in terms of acceptability as the primary caregivers who participated reported that this was not convenient and feasible on a regular basis. In addition, the visual deficits following the stroke also exacerbated the challenges faced- both in terms of communication and interaction and mobility. The family members were therefore often overwhelmed and frustrated during most sessions. For pWA and who have hemianopia, the standard scripted strategies would need additional consideration of the visual field. However, the practicality and acceptability of the strategies needs further exploration. In this triad, the CPs found accommodating to the visual deficits inconvenient and did not appear to carry on using the trained strategies.

**Table 7.4 Unplanned adaptations**

| Nature of adaptation                                  | Original plan  | Adaptation and reason  | Impact  |
|---|--|--|---|
| (a) Setting   | Pilot Study in participant's home was not to be included in the main study | Participant's home- This was a part of the pilot study.  | Participant was more comfortable. One-to-one session.   |
|   | Government Hospital: Conference room                                       | Changing setting mid-session: Clinic Room and conference room, owing to availability of rooms; not disclosed to the researcher prior to training day.                          | Loss of time, disruption to session, need to move all training material and recording equipment as well as participants.  |
|   | Private Hospital: Counselling room   | Changing setting mid-session: Counselling Room and break room within the step-down ICU, owing to availability of rooms; not disclosed to the researcher prior to training day. | Loss of time, Disruption to session, need to move all training material and recording equipment as well as participants.  |
| (b) Individual vs group sessions                      | Small group sessions (n=4)   | Individual and small groups (n=2) - Availability of family members, participants recruited at various time points  | Inconsistency in the 'social element' in the training for different dyads; dyad specific discussions  |
| (c) No of people delivering/facilitating the training | Only principal investigator (PI)   | Only principal investigator (PI); PI and volunteer facilitator owing to dialectal differences in the Kannada spoken by the PI and some dyads.                                  | More manpower, facilitator was able to participate in role play where there was a shortage of co-partners**, assistance with comprehending and facilitating discussion where language barriers may have posed challenges. |
| (d) Training time                                     | 5 hrs  | Dyad 6 attended 3 hrs, 20 minutes owing to prior commitments that were not disclosed to the researcher prior to the training day**   | No opportunity to practice use of strategies, disruption to the ongoing session dynamic, facilitators involvement in role-play session.   |
| (e) Dyad specific tailoring                           | Generic, Scripted  | Individually directed discussion during individual and small group sessions.   | Dyad specific discussions may have added benefits.  |

**7.4.6 The extent to which the modification is fidelity-consistent**

Despite the significant modifications made to the intervention, most of these modifications were owing to the irrelevance to the context being explored. Sessions designed for volunteer conversation partners who were not related to the pWA, were

modified to suit family members and primary caregivers. In doing so, the modifications were made to enhance the fit of the intervention.

The goals of the adaptation i.e., improve fit, adapt to the socio-cultural context of India, minimise costs and resources involved in the implementation, develop culturally relevant resources, introduce the social model and the concept of health and disability within the sociocultural context of India along with contextual constraints collectively influenced the planned and unplanned modifications of the CP-toolkit for use in this study (see fig. 7.6). The intervention thus implemented, however, remains aligned with the research questions being explored and all the training days were conducted based on the adapted manualised script. Specific fidelity testing however, is not reported in this study because of the nature and scope of the study.

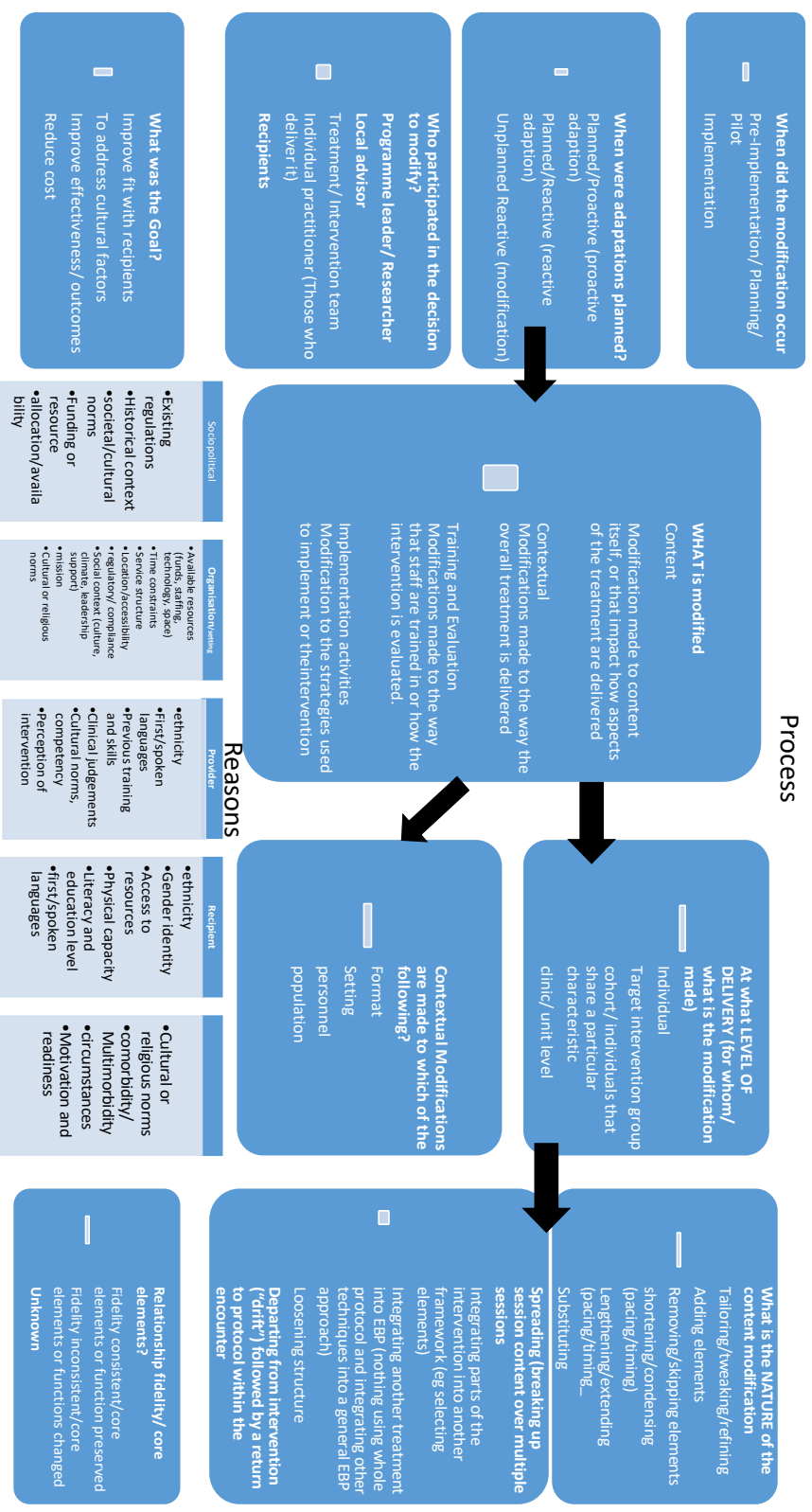


Figure 7.6 Summary of the modifications made for the development of CPT-In. (Adapted from Stirman et al., 2019)

#### **7.4.7 Summary of the modifications made**

Modifications included deletion and addition of elements; changes to setting; modification of audience or population demographic; modification of nature of delivery, i.e., individual vs group; Linguistic adaptations, core element: involvement of pWA as trainers. The removal of elements that were specific to training volunteers and the addition of elements designed to train primary caregivers were essential. The core elements such as 'images of disability', 'health and disability', 'impact of aphasia' that were of importance to setting the scene for the more didactic session on strategies were preserved while enhancing the cultural and contextual relevance to suit the context in which it was implemented. Examples of Indians with various forms of acquired disabilities who have been able to live successfully and celebrate life with adaptations made to their lives with the support of those around them were used to make up culturally relevant material for 'images and perceptions of disability'. Activities and hypothetical situations were tailored to include places and events specific to the context and culture (e.g., getting to NIMHANS by bus). Additional unplanned modifications between training days were also made during the process of implementation.

#### **7.5 Summary**

This chapter described in detail the procedures followed for the cross-cultural adaptation of the SOC-13 assessment tool as well as the adaptation and development of the CPT-In intervention to be explored in this study. The cross-cultural adaptation and validation of the SOC-13 scale provided a culturally appropriate tool to measure of the relationship between sense of coherence and the impact of CPT. The validity of the tool further allows its use in future research as well as may be used for "systematic orientation and perspective in the daily activities and actions of the professionals" (Monica Eriksson & Lindström, 2005) and may also inform adherence to intervention, and understanding outcomes. The culturally adapted CPT-In toolkit served as an appropriate and relevant intervention tool for exploring the impact of CPT for primary caregivers of pWA in India. The tool has the potential to further research in scaling-up conversation partner training with further modifications to meet the needs of various stakeholders, and may also serve as the basis for the development of training programs for students who are training to qualify as allied health professionals and work with pWA in the socio-cultural context of India and that of culturally similar contexts. The application of FRAME to describe the adaptation and development of the CPT-In tool based on the CP-toolkit supports the transparency of the reporting of the intervention and will allow its replication in future studies.

## **Section Three**



## **8 “None to share things with”: *Participant-observation of the impact of aphasia***

In this chapter, I present the data resulting from the observations using ethnographic techniques, on two families in which the husband has aphasia. The end goal of this study is to inform the adaptation and development of a conversation partner training approach that is recommended by best practice principles (Simmons-Mackie, Raymer, et al., 2016; Simmons-Mackie, Worrall, et al., 2016). The stories told are situated within the sociocultural context of the south Indian state of Karnataka, in two families which were from similar religious, linguistic and educational backgrounds but slightly different socioeconomic backgrounds. The interpretation generated can be extended to similar contexts within the broader Indian context but, and importantly, not all.

The chapter begins, in section 8.1 with an introduction into the context of the researcher, the approach followed and a summary of the participants, followed by a contextualized description of the domestic lives of each of the two families based on the researcher’s observations (sections 8.2 and 8.3) and subsequent reflexive thematic analysis described in section 8.4. The sections include notes from the field notes or direct quotes from the participants that are presented in italics and embedded within academic arguments. These notes were made contemporaneously during the data collection process. The chapter closes with a summary of the findings described in section 8.5.

### **8.1 Aphasia in everyday life: Ethnographic observations across two Indian families**

I have used ethnographic techniques to give myself an opportunity to gain an emic perspective in a naturalistic manner, situating myself as a participant observer. In consideration of my underlying clinical motivation that was the impetus for this project, I reflected on my subjectivity as a researcher from the sociocultural context of India who has also had exposure to best practices in the Global North where aphasia research is different and arguably more established. As a PhD student in Ireland, participating in a global network for aphasia research (Collaboration of Aphasia Trialists), I brought distinct perspectives on aphasia, international best practice, Indian cultural and family life, and previous observations on the impact of aphasia in an Indian context.

My approach to the analysis of the data generated from detailed documented observations has been moulded by the reflective perspectives on qualitative research and specifically reflexive thematic analysis of Virginia Braun and Victoria Clarke (2019; 2016, 2018). This section will describe my observations of the domestic lives of people with aphasia living in India based on the lives of two families that consented to participation in a study of this nature. I will first tell the story of each family unit individually and then provide an overarching description of my observations and interpretations. Reflections on my role as participant observer is also provided.

**Table 8.1 Summary of Details of Participants with Aphasia**

| Participant with aphasia | Age (Gender) | Communication Abilities  | Living Circumstances                             | Healthcare Services availed  | Support Services                   |
|--------------------------|--------------|--|--|--|------------------------------------|
| Carlos                   | 68 (M)       | Repetition responses, uses pointing, vocalisation, iconic gestures, Intact comprehension | Lives with wife                                  | Medical. Inpatient and Outpatient PT, Inpatient and Outpatient SLT | Unsuccessful, Some family support. |
| Clarence                 | 64 (M)       | Verbal, missing content words, Intact comprehension                                      | Lives with wife and brother. Have domestic help. | Medical. Inpatient and Outpatient PT, Inpatient and Outpatient SLT | Domestic Help, Family Support      |

### 8.2 Carlos and Patricia<sup>1</sup>

Carlos is a 68 old man who has been living with a stroke for 4 years with his wife and primary caregiver Patricia, a retired nurse in her early 60's. Carlos and Patricia live in a two-bedroom apartment within a larger apartment complex that comprises three blocks of buildings. Each block has five floors with airy corridors that overlook an open courtyard. Carlos has hemiparesis and is a wheelchair user. Within his apartment he moves around using a walking stick and with the support of his wife. He is fully dependent on Patricia for all his needs. She helps him move from the bedroom to the living room and to the front door where his wheelchair is usually placed. She feeds him his meals, helps him with his toileting, dressing and grooming. She is also his primary communication partner and his personal 'interpreter' when communicating with unfamiliar or less familiar conversation partners. Patricia appears to feel the need to constantly be around Carlos. While Patricia finds the time to attend to as much of Carlos's care and needs as she can, she expresses her need for respite and help. *"My time is not my own"*, she says. She often feels *"alone"* and like she is *"talking to a wall"*, particularly when Carlos does not respond in the manner and extent, she wishes he would. She is often exhausted at the end of most days, but she keeps going. She has made multiple attempts to reach out for support services, however she was unable to get the care and support services that were right for them.

Prior to the stroke, Carlos had been an extremely social man. He was a musician and used to play the cello. He was also a very good cook and was popular for his roast and *'sarpotel'*<sup>2</sup>. He would often invite his friends over and he would love to cook a meal and have a 'sing-song' with them. Owing to their proximity to a retreat centre and church, Carlos and Patricia would attend the daily church service, and Carlos joined the church choir. Following his stroke, Carlos's lifestyle has changed significantly. He has stopped hosting people and is unable to cook or play the cello owing to his physical disabilities. He has reportedly lost interest in most things and spends his free time watching tv or the news and sometimes music videos that are on the MTV or local Indian music channels. When he is tired or bored, he often requests to go back to bed or to be served food. Patricia,

<sup>1</sup> All names are pseudonyms and some features have been changed to de-identify the family.

<sup>2</sup> Sarpotel- Local Mangalorean delicacy made with finely diced pork

however, makes it a point to ensure they go for a walk every evening. This usually involves her helping him walk to his wheelchair with the help of his walking stick and Patricia's support and then taking him downstairs to the courtyard. The stroll usually entails Patricia pushing Carlos around the block within the grounds of the apartment complex and then parking themselves in the centre, beside the grotto<sup>3</sup>. Before they start their stroll, Patricia first takes Carlos to the 'grotto' where he makes her touch the statue of Mother Mary and then touch his lips with those same fingers so he can 'kiss the grotto'. This is as far as his religious engagements extend to, presently.

Carlos and Patricia have three children— two boys and a girl. All the three children live away and all long-distance communication with them is through WhatsApp video calls and text messages. Their older son sends a photo with a factual update of their grandson's antics daily. This often serves as a prop for interactive discussion between Patricia and Carlos. He likes to look at the photos and then kiss them while Patricia tells stories about their grandson. Patricia often brings up photos of their family and friends who have updates and uses them to give Carlos the latest news on them.

Four years ago, following his stroke, Carlos was paralysed and had difficulty leaving his bed in the hospital environment. While still in hospital, he was referred for physiotherapy and speech therapy services. However, owing to his reduced levels of consciousness, and increased fatigue and weakness, only initial assessments were carried out. Some amount of in-patient physiotherapy was provided, and he was then recommended to continue home-based physiotherapy sessions for a few months following discharge. The experience with the physiotherapist was reportedly good and highly beneficial. Patricia did mention one incident in which Carlos was verbally aggressive with the physiotherapist during one of the sessions. Carlo's aggressive behaviour was perceived as being rude and reportedly upset the physiotherapist. Patricia *'was evidently upset by this as she reports that she had never heard Carlos use an abusive word prior to that'*. Patricia also describes their experience with speech therapists immediately following Carlos's stroke while he was still an in-patient and following discharge. She describes how as an in-patient; he was required to perform tasks he could not do that led him to get very frustrated and angry with the attending SLTs. Following discharge, Patricia requested to resume SLT services at home. Arrangements were made for therapists to do house visits although the visits were not very regular owing to the lack of availability of SLT services. When the visits did occur however, the therapy consisted of *"naming objects, pointing to named objects, recall tasks, do this, do that"*. On multiple occasions, the frustration from the sessions resulted in Carlos getting angry and Patricia herself expressed her frustration having to watch those sessions— *"We couldn't take it you know? I told them to stop"*. In the patient file that Patricia possessed for Carlos, there was no indication of the SLT intervention provided. The only mention of aphasia was that of the neurologist who documented that Carlos presented with motor aphasia and thus referred him for speech therapy.

Communication between Carlos and Patricia is observably imbalanced. Patricia takes up majority of the turns, speaks for Carlos, uses test-questions when interacting with him,

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<sup>3</sup> Grotto- a stone built shallow cave that houses a statue of Mother Mary- Common feature of Catholic-owned homes and apartment complexes in Mangalore, Karnataka, India.

follows a routine to meet his needs rather than when indicated by the Carlos himself. Patricia seems to use these strategies in an attempt to support Carlos in his activities of daily living and in his interactions with other people in the best way she knows. Carlos communicates using pointing, gestures, vocalisation and sometimes attempts verbal production. However, his verbal utterances are largely stereotypic in nature or in the form of repetitions of words used by Patricia. On one occasion, *'Carlos suddenly notices my wristwatch and points towards it, vocalising in excitement. He gestures to me to show it to him and takes my hand to have a closer look at it. He gives me a huge smile and then gives me a 'thumbs up' gesture. I ask if he likes it. He nods and vocalises to say yes and then says, "ya" and gives me another 'thumbs-up' gesture and repeats 'like'.*' Later, I observe, *'Carlos looks up at the clock and taps his wife and vocalises an /a:/ and points upwards, indicating he wants to go upstairs. Patricia clarifies his request but does not provide him with support to respond to her question. 'She asks him if he really wants to go up as they have been down for less than an hour. He does not respond. She suggests they sit down longer and enjoy the weather and the Sun. (...) He looks at her and then complies with no indication of whether he actually wants to remain seated downstairs or go back to their apartment'* In this instance, Patricia attends to his non-verbal communication but does not support him in his ability to further the communication interaction. I record a personal reflection in my notes—*'it must be exhausting when each attempt to communicate is always a chance being taken to engage in a successful conversational interaction or a mere exchange of only some information'*.

Patricia explicitly demonstrated a clear preference for spoken communication with less appreciation for non-verbal communication. In section 8.4.4, I describe how Patricia instructs Carlos to use his words instead of using head nods and gestures to communicate. In the instance where he responds with a head nod, they are discussing the ongoing cricket world cup match and discussing which of the two rival teams—India and Pakistan will win the match. Patricia once again takes a turn and *'rephrases her question and asks him again, who he thinks will win the match. She names the two teams this time— "India or Pakistan". "Pakistan" he responds. Both Patricia and I are taken aback by his response. Patricia asks him again very surprised, if he really wants Pakistan to win. He shakes his head to say no. Patricia is confused and asks him the question again. He shakes his head, and she provides him with options again. "India or Pakistan?". "India", he says'*. Patricia then takes a turn to clarify this however by posing a complex question to Carlos which might not guarantee a response that reflects what he is trying to convey. In these instances, the over reliance on spoken language may risk missing out on information that Carlos is trying to convey and risks misinterpretation of his responses and his turns. Insisting on verbal communication by preventing him from communicating in way that suits his abilities also risks undermining his competence and prompts him to elicit responses that are unlikely to reflect his desired message.

Carlos, in addition to initiating non-verbal attempts to communicate, also attended to the use of written and symbolic communication to effectively engage in communication interaction. For example, Carlos engaged with the written keywords I introduced during our conversation to ask me a question about his stroke. There is therefore potential for improved opportunities for successful and meaningful communication with exposure to communication partner training. Patricia is actively trying to support Carlos; however, an

apparent lack of awareness of supportive communication strategies that prevents her from engaging with their use. Her focus on spoken communication may also be associated with the attitudes towards communication and the notion that spoken communication is superior to non-verbal communication. It is my hypothesis that exposure to communication partner training for Patricia may have a significant positive impact on their communication interactions. I describe more about the impact of CPT for this couple in Chapter 10.

### **8.3 Clarence, Patsy and Peter**

Clarence is in his early-sixties and had a stroke 2 years ago. Clarence and Patsy have a son and a daughter, both of whom live abroad. Peter's daughter and her husband live in a neighbouring city and were present during my third visit to the house. Clarence is a retired bank manager and lives with his wife Patsy and his brother Peter. Peter moved in with Clarence and Patsy following the death of his wife not long before Clarence's stroke. Clarence, Patsy and Peter live in a spacious villa situated in a large private compound slightly away from the city centre. They have a paved garden area that is levelled to facilitate easy walking and a porch where one can sit and enjoy the evening breeze. Clarence can walk around but requires help when using stairs. His gait is shuffled and not very steady when walking on unlevelled ground. He moves around within the house independently, however, only ventures out with Patsy. Clarence, Patsy and Peter were privileged in comparison to Carlos and Patricia in the sense that they had additional domestic help. Patsy therefore got time to spend with Clarence while also taking some time out for herself while managing her household duties. Peter moving in with them also served as a huge help. Patsy and Peter could often split the chores between them while one of them stayed home with Clarence.

Clarence was a very social man and undertook a lot of social responsibility within the neighbourhood community and the church. Prior to his stroke he would organise visits to 'Ashrams'<sup>4</sup>, orphanages, old age homes and visit the sick in hospital. During Christmas, he would dress up as Santa Claus and go carolling. He was good with numbers and used to be a voracious reader. Since his stroke however, he has difficulty writing and reading aloud. He can, however, comprehend what he reads and often spends some time flicking through the daily newspaper. Clarence found a friend in the neighbour's son—he would often come and visit Clarence and Patsy and Clarence enjoyed chatting to him and listening to his stories about school. Clarence also enjoyed listening to music in his room and reciting his morning prayers with Patsy every morning.

Clarence was referred for speech and language therapy and physiotherapy prior to his discharge from hospital. He continued availing of both services following discharge. Peter would drive Clarence and Patsy in for some of these sessions. Patsy, when describing some of the recommendations of Clarence's speech therapist, brought out some books for pre-schoolers that teach the alphabet and numbers. She mentioned these were recommended for use with Clarence to practice re-learning his alphabets and numbers. Patsy adds that

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<sup>4</sup> Ashram-place of retreat or pilgrimage such as a monastery for spiritual instruction. It often serves as residential schools for children in some villages, and as shelters for children who are orphaned or from an economically deprived background.

Clarence showed little interest in these books unless he was really in the mood to practice his writing.

Immediately following his stroke, Clarence was *'unable to speak'* with preserved comprehension abilities as reported by Patsy and Peter. At present, Clarence is observed to communicate at phrase level and occasionally at sentence level with word finding difficulties evident. Patsy, Clarence, and Peter had developed their own strategies to support communication interaction with each other, particularly interactions and conversations involving Peter. I describe my documented observations from a conversational interaction that covered two-three topics over a span of 25 minutes and demonstrates the different communication barriers and how they navigated them. Clarence always tried to actively take part in communication interaction. *'Clarence initiates a conversation but gets stuck when he cannot get the names of the people he is trying to refer to. He tries to describe the people but has difficulty doing so.'* I think about just how much potential there is in this instance for the use of supportive communication strategies by way of written keywords, photos, or phone lists. *'Clarence interlaces his fingers and hangs them low between his legs, while he hunches looking a little frustrated and worried. He shakes his head and then looks up at me. He adds that "this" is his problem.'* He is visibly upset and frustrated about this instance of communication breakdown and expresses his challenge to me. *'He rotates the palm of his right hand and says, "difficult to talk". He has difficulty talking about and narrating incidents as he cannot deliver certain names and details.'* He has challenges with storytelling which sometimes results in incomplete conversation. *'He hangs his head low with palms together and fingers interlaced and dangling between his legs as he bends over forward looking sad, worried and upset. Patsy taps his arm as he they resume their conversation. They appear to move on from this detail and continue their conversation, 'They verbally agree to do so and to come back to it later when the details come to them. This strategy is suggested by Patsy and Clarence agrees to it with a head nod and a swaying like motion of the hand.'* This is a strategy the couple are often observed to use when faced with communication breakdown, possibly to save face<sup>5</sup> (Goffman, 1967) by not drawing too much attention to his disability. Patsy involves Clarence in making this decision and accepts his use of gestures and head nod to make this decision. *'Patsy and Clarence are quiet for a few seconds before Patsy introduces a new topic in the form of a question to Clarence, therefore inviting him to participate with a naturally provided stimulus.'* In doing so, Patsy yields the conversational floor to Clarence in a supportive manner. *'Clarence nods in response while also uttering a few words and using pointing gestures. Patsy, aware of the context, fills in for Clarence where she finds it possible to. Clarence nods in acknowledgement and whenever he agrees with Patsy's suggested (or inferred) responses. He shakes his head and his hand and says "no" when her inferred responses are incorrect.'* Patsy uses prior knowledge and the context to work with Clarence in co-constructing meaningful exchange of information. *'They continue their conversation in this manner, with evident co-construction and turn-taking skills. However, the co-construction extends to the co-construction of Clarence's turns, responses and contributing statements. Patsy also observably takes longer, more loaded turns. Clarence makes attempts to add on to Patsy's fillers and suggested responses whenever and*

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<sup>5</sup> "(...) the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact. Face is an image of self-delineated in terms of approved social attributes – albeit an image that others may share" (Goffman, 1967, p. 5)

wherever he can.' (...) 'Patsy, on some occasions, does not provide Clarence with adequate time needed to fully contribute to his turn and often fills in before giving him a fully fair chance to add on details he noticeably finds difficult. It is apparent that she does this to avoid conversational breakdown or to minimise the attention drawn to Clarence's communication disability. Clarence adds short comments in his turns and uses context specific words and details mentioned by Patsy to help associate the thoughts, names and details he has difficulty verbally producing and thereby add more information to and complete his contribution more fully. He sometimes used words, names and details verbally produced by Patsy to connect and associate with older recent conversations they had, prior to this current one, and in doing so, he goes back to complete the information he had previously tried to provide and often results in them resurfacing, continuing, and satisfactorily completing incompletely left conversations. This strategy appears to be used a lot and observably works well for them.' Clarence also uses gestures to support his communication. For example, when he wanted to excuse himself but had difficulty saying that he wanted to go to the bedroom, he stood up turned around to get Patsy's attention, and turned his head towards the bedroom. He once again 'looked at Patsy nodding his head (...) to indicate he is going in'. Patsy always acknowledged and responded to his non-verbal strategies which supported him in all his turns. In another instance involving their neighbour's son, I observe, 'Clarence calls out once more, this time looking at the boy and gesturing to him to come over. He then says "unga yae" (which translates to 'come here') while looking at the boy and pointing to me. (...) Clarence keeps smiling at the boy and beckons him to come over to where we are seated. He does this quietly and using gestures only'.

#### **8.4 Domestic Lives of People with Aphasia: Observations and Interpretations**

In this section, I describe the patterns I identified on analysis of my documented observations from my immersive experience in the homes of two people with aphasia and their family members. The patterns relate to some of the emotions they described, the reported changes to their lives, the new caregiving and support roles undertaken by the family members, the associated burden and need for respite. I also describe my observations of communication challenges encountered, the attitudes towards communication, the perceptions, and assumptions about the abilities of the pWA, the nature of their interaction as well as the immediate opportunities that the study created and the living circumstances. Table 8.2 illustrates the formation of patterns by identification of themes and the sub themes that comprised them.

##### **8.4.1 What he could do - post morbid loss**

The onset of aphasia resulted in a range of changes to the lives of the people with aphasia and their family members, as I have described. The first theme identified relates to the sense of loss for both the people with aphasia and their caregivers. The loss encompassed valued activities, change in social identity and occupation. In one of my documented observations, 'Patricia informs me that Carlos used to be a very good cellist and used to enjoy playing the instrument. There is a sense of disbelief and grief in her voice. (...) Carlos nods his head and hangs it low. Occasionally, turning his wrist with his palm facing upwards and fingers partially curled inwards shaking his head in disbelief and lamenting over the changes. (...) Patricia talks about how Carlos was so "jovial, loved entertaining, loved music", but now they don't partake in any of it. He does not play the cello anymore.' Later

the same day, Patricia goes in to bring us tea. *'She takes a cup for herself and sits with us— beside and to the right of Carlos. (...) Patricia watches Carlos, telling him to 'be careful' and assisting him when needed'*. Carlos's physical difficulties affect more than his recreation and social activities. They affect his activities of daily living. *'Patricia spends the majority of her time rallying around her husband.'* The following day, I observe Carlos is still in bed when I arrive at their home. *"The mornings are often slow when the weather is gloomy or wet"* explains Patricia. Later, I observe, *'Patricia helps Carlos out to his seat providing him with full physical prompts accompanied by verbal prompts. Carlos looks downward at the floor and at the movement of his feet. (...) I greet him "good morning" as he makes his way into the living area. He looks up, glances in my direction, briefly acknowledging my presence with a head nod. Patricia prompts him to respond to my greeting.'* I describe these extracts to highlight the transition from an extremely social entertainer to being almost fully dependent on his wife for his every need. Patricia feels the burden and explicitly talks about her need for respite. She occasionally talks about the things Carlos could do, his talents, his skills and how so much has changed.

During my visit to Clarence, Patsy and Peter, I notice a photo on the shelf across the room. *'Noticing that the photo caught my glance, Patsy mentions that the man dressed as Santa Claus in the photo is in fact, Clarence. Patsy goes on to make him feel good about how he is such a jovial person by nature and how everyone in the neighbourhood liked him while he was the gurkar<sup>6</sup> of their parish community. (...) Patsy adds that since Clarence got a stroke, other people have since taken over.'* In this instance however, the photo on the wall served as a useful prop for Clarence to use to support his conversation as he tells me about where the photo was taken using pointing and gestures to support his communication. On another occasion, *'Patsy talks about how Clarence used to be extremely good with numbers and languages. In addition to English and Konkani, he was reportedly also good in Marathi. She places her right arm on his lap as she talks in praise of him. She adds that he used to work as a chief accountant at a large nation-wide bank that also controls the mint and circulation of cash-flow in the country (...).'* I observed that in the case of Clarence and Patsy, reminiscing about the past, their activities, their lives, often served as a great context for conversational interaction. Patsy found it easier to support Clarence when he would get stuck during interaction as the context was familiar to both. Talking about the past, what they used to be, their losses and changes to their lives following the aphasia, although painful, created opportunities to engage in deep, meaningful, and intimate interaction.

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<sup>6</sup> Gurkar— a person of good conduct appointed in a parish to take on leadership roles within the parish and be involved with the parish council in the Mangalore diocese.



**Table 8.2 Six main patterns, themes, and subthemes from the ethnographic observations (themes 1-3)**

| Patterns              | Theme  | Sub-theme   |
|-----------------------|--|---|
| What he could do      | Personality & Skill  | Social skills: Entertainer, Multi-lingual speaker no more<br>Hobbies: Musician, chef, church volunteer no more                      |
|                       | Work   | Loss of job<br>Loss of professional responsibility  |
|                       | Independence   | Morning routine, recreation, meals, self-help dependent on family   |
| Consequence           | Reminiscing  | Loss, grief and talking about the past  |
| Spouses changed roles | Lack of services   | Lack of availability<br>Accessibility<br>Quality & appropriateness  |
|                       | Old and multiple new roles   | Partner, companion<br>Caregiver<br>Multifaceted health supporter (Physiotherapy instructor, Speech trainer)<br>Information Provider |
|                       | Recreation   | Joint recreation- spouse support required   |
| Consequence           | Need for Respite, improved services, improved service availability | No time for self<br>Difficulty with solo recreation<br>Worry filled holidays  |
| Perceived burden      | Spouse burden  | Lack of support,<br>Fatigue, tired,<br>Lonely   |
|                       | PWA feeling like a burden on family                                | Desire to be independent<br>Desire to support spouse  |
|                       | Meaning and understanding from shared stories                      | Seeking comfort from shared stories<br>Relating to shared stories<br>Hope from shared stories                                       |
| Consequence           | Seeking opportunities to share<br>Impact on self                   | Built up emotions, feeling stuck, isolated<br>Reduced mood, sense of self among PWA   |

**Table 8.2 (contd.) Six main patterns, themes, and subthemes from the ethnographic observations (themes 4-6)**

| Pattern                               | Category   | Subcategory   |
|---------------------------------------|--|---|
| Challenges with communication         | Perceived challenges and attitudes towards communication | Difficulty speaking,<br>Difficulty with interaction,<br>'Talking to a wall'<br>Reliance on verbal speech  |
|                                       | Tendency to undermine the PWA                            | Tone of voice,<br>Use of test-questions,<br>Not acknowledging or accepting PWA's non-verbal communication   |
| Consequences                          | Emotional intimacy                                       | Reduced depth of conversation<br>Loneliness, Isolation<br>Loss of partner, companion, friend  |
|                                       | Incorrect inferences & missed information                | Misinterpreting head nod<br>stereotypic verbal utterances<br>'Saving face'<br>Reduced involvement in interaction<br>Correction  |
| Disappointment with therapy           | Focus of therapy   | Clinician directed activities and tasks,<br>Reduced focus on PWA need<br>Focus on reviving linguistic impairment  |
|                                       | Attention to needs and wellbeing                         | Clinician directed tasks,<br>Lack of consideration of mental state, level of ability,<br>Inadequately responsive to PWA frustration   |
|                                       | Material used  | Not age appropriate   |
| Consequences                          | Inadequate knowledge and skill in communication          | 'Talking to a wall'   |
|                                       | Withdrawal from rehab                                    | Frustration, discontinued therapy   |
|                                       | Increased disability                                     | Inadequate knowledge, support and skill in coping, communicating, reduced reintegration with family and society (e.g., unable to communicate with other family during celebrations) |
| Residential and neighbourhood friends | Shared recreation space                                  | Access to interaction, handshakes, conversation   |
|                                       |  | Visitors  |
| Consequence                           | Opportunity for relief                                   | Time for self   |
|                                       | Social reintegration                                     | Access to people beyond family  |

#### **8.4.2 Spouse's changed roles**

In both the families studied, the wife was the primary caregiver of the husband with aphasia. The theme of 'spouses changed roles' reflected how spouses took on the role of

therapists or trainer, the impact on the relationship and the need for support and respite. On a daily basis, the wife in each family would serve as the primary communication partner, the care assistant, the trainer, the companion. The reduced availability of home-based services and the reduced accessibility of institution-based services meant the primary caregivers would have to step in to take on some of these roles. In my prior experiences as a student SLT and intern in the Indian context, I have noticed that it is quite common to have early discharge with home training programs provided in this context. The primary caregiver is typically instructed to continue with administering these tasks within the home setting thereby setting the scene for such acquired roles.

Patsy did not explicitly talk about her role in her husband's rehabilitation. However, there were apparent instances of her taking on the role of a 'trainer'—In one instance, recorded in my observations, *'Patsy hands over the magic slate to Clarence and asks him to practice writing his alphabet. She adds [as an explanation to the researcher], that his ability to write differs—he sometimes manages to write his name/ a series of alphabet / numbers but emphasises that it is highly inconsistent. The couple continue to work on Clarence's writing skills. He appears rather tense and pressurised with demand of having to write'* In another instance, *'Patsy then points to another book on the table. The book is book for children to learn numbers and has the numbers "2", "1" and "3" written in colourful bold numbers on the cover of the books. These materials were suggested by the SLT. Clarence begins his attempt to write down numbers.'* In both instances, Patsy is working based on recommendations of the speech language therapist. These recommendations were provided months in advance, but the lack of follow up and possibly the lack of progress perceived by them has them still focussed on working on these directive activities and goals. The same pattern was also frequently observed during visits to Carlos and Patricia's home. During one visit, my observation notes record *'Patricia distracts him from his lack of interest in going downstairs and draws his attention to some movement exercises and requests him to do it with her. The wife demonstrates the exercises for him. Carlos complies with his wife and follows the exercise and then repeats the exercise a few times.'* Here Patricia appears to take on the role of a physiotherapist guiding him through therapeutic exercises. It could be assumed that her professional background as a nurse adds to her involvement in all of Carlos's healthcare needs.

Taking on the roles of a multifaceted health and primary caregiver as a spouse appeared to have an impact on the relationships and on the individuals. Caregivers appeared to feel overburdened, lonely, frustrated and often desiring some form of respite. During some of my visits to Patricia and Carlos, Patricia explicitly expressed her desperate need for support and respite, as recorded in my field notes *'She talks about how she usually just takes Carlos downstairs for some recreation time together. She then leaves him there to relax on his own while she goes back to the apartment to get some time to herself and catch up on her work. Patricia mentions that Carlos enjoys just sitting down, looking around, watching the children play, meeting anyone passing by— at least those who care to come and say hello or at least check in. She adds that she requests the watchman to keep watch and let her know if he needs anything.'* This is the only time Patricia gets to herself. *'Patricia talks about how she needs that little time as he is otherwise fully dependent on her. She talks about her tireless attempts to seek help from hospitals, social worker, etc., to arrange for someone to come help out with bathing him., etc., but it was very difficult. Those who did*

*come along did a very half-hearted job. She mentions her efforts to try and approach a hospital to start a stroke support group, but nothing worked out. Patricia had made many such effortful attempts to initiate changes and start services at a higher level. However, her efforts were unsuccessful.*

*Patricia describes how she tried to hire a live-in carer to support Carlos for the duration of her holiday. She finally found someone who reassured her that everything would go on well. Patricia was relieved and decided to go away for a month. (...) after 7-8 days the carer called to say she could not cope and was finding it very difficult to manage'. Patricia describes the stress, desperation, and helplessness she felt until 'her aunt was ever willing to help out'. Carlos is witness to this interaction between Patricia and me and looks noticeably upset.*

#### **8.4.3 "What all I had to go through no, because of the stroke": Perceived burden**

From my immersion within the homes of people with aphasia, I observed how the burden felt by caregivers appears to impact on the sense of self of the PWA, most obvious when the caregivers discussed their challenges. I also observed that when stories were shared by a third-party listener (such as when I described personal experiences with my family and when Peter's son-in-law enquired about the comparative experiences of other pWA in relation to Clarence) the caregivers and people with aphasia responded positively. This theme comprised perceived burden felt by both the CPs and the pWA, Shared stories.

The presence of the researcher within the homes of the families where one member has aphasia, prompted the family members to use the opportunity to talk about their challenges, the stroke stories, the highs, and the lows that they have had to encounter since the stroke. Sometimes however, the stories shared by the primary caregiver, appeared to cause the person with aphasia to feel sad, upset and possibly a sense of burden. During one such conversation, Patricia exclaims *"What all I had to go through no, because of the stroke"* and she patted him and laughed. He nodded, looking sad and disappointed and raised his hands in a way indicating his helplessness with the situation. *[Patricia] tells me how all of this caused so much frustration. [Carlos] nods and says "correct" and nods in disappointment.*

The individuals with aphasia often appeared to feel like they were the cause for the caregiver burden. In response to Patricia's challenges described above, *'Carlos tapped Patricia's hand with his head hanging low as he shook it. His facial expressions looked sad and apologetic. He seemed helpless. I decided to participate as a contributor to the conversation, a slight deviation from my role as participant observer. I describe my grandmother who has Alzheimer's Dementia who is being cared for by my parents and is also physically dependent on them owing to co-morbidities. I explain how she would love to be independent and often feels very helpless and frustrated. Carlos instantly appears to resonate. He blurts out, "ya yaa. Correct correct." I clarify his response and ask, "You'd love to be independent?" He points out at me and moves his hand up and down as he enthusiastically says, "ya ya". The corresponding burden felt by the PWA also appears to be high. I record in my notes: 'This was the first time I watched Carlos feel so strongly about something being said. This must really be something he thinks about and feels a lot- and understandably!'*

I make an observation from an interaction with Peter's son-in-law who enquires about Clarence. *'He enquires about what I would think of Clarence's prognosis and current state in comparison to other participants with stroke and aphasia whom I have seen—whether some have been able to fully regain their ability to talk, walk and engage fully in other activities.'* I understand two aspects that this may be associated with—one being the hope for a full and complete recovery and the other being, seeking comfort in the stories of other people with aphasia, in their successes, hoping for stories where people with stroke and aphasia are able to live fully and participate fully.

#### **8.4.4 “Difficult to talk”: Challenges with communication**

The theme of challenges with communication comprised the perceived challenges and consequences of the communication difficulties, the impact of communication difficulties on emotional intimacy, the tendency to (unintentionally) undermine the PWA.

Misconceptions and incorrect assumptions made by the communication partners often appeared to influence how they interacted with the person with aphasia. This was apparent in the depth of the conversation, the tone of voice used, the content of the communication interaction. An obvious preference for the verbal modality was also observed. I describe a few instances from my observations of the interactions between Patricia and Carlos that clearly demonstrate the preference for verbal communication. In one instance, I ask Carlos about the ongoing cricket matches. During this conversation, Patricia joins in and asks Carlos which team he thinks might win. Carlos nods his head in response, to which Patricia says: *“Name it instead of just nodding”*. In another observation, I describe an instance where Patricia explicitly tells Carlos that she does not appreciate his gestures. *'Patricia asks Carlos if he would like to bring out his cello. Carlos instantly says, “no no” and folding his fingers together, raises his hand towards his mouth with his fingers pointing inwards. It is evident Carlos wants to eat. (...) Patricia instructs Carlos, “say, I want to eat. I don't like that gesture. Stop using that gesture.” Carlos nods his head and hangs it low, He repeats, “gesture”. Patricia then says, “say eat”. Carlos's facial expressions appear sad and angry/annoyed. He responds “eat”. Patricia acknowledges his elicited “eat” and praises it, once again re-iterating that he must verbalise his needs and wants (...) and not use gesture.'* Patricia's explicit focus on verbal communication and her disregard for non-verbal communication such as the use of iconic gestures and head nods, restricts Carlos's ability to fully convey his message. By interrupting his turn to correct his style of communication, not only is his opportunity to convey his needs hindered, it also changes the focus of the interaction to a 'trainer-trainee' interaction. Patricia assumes an authoritative role and her negative response to Carlos's attempt to communicate his needs visibly upsets him as observed from his facial expressions.

Patricia *'is unsure if he is actually following what she is communicating to him or “if he simply pretends to understand”*. She mentions that his lack of responsiveness and communication often makes her feel like she is *“alone”* and is *“simply talking to the wall”*. In another instance Patricia describes how she has *“None to share things with”*. The barriers to successful conversation in these instances could be considered as barriers which may be addressed through the use of supportive strategies.

The difficulty engaging in communication, specifically in everyday chat is something that the spouses expressed that they really missed. In my field notes I record, *'(Patricia) mentions that she finds it very difficult, and to make it worse, their inability to communicate and discuss these feelings between each other as a couple, is often frustrating. She adds that often, even when something good happens, she gets excited and wants to discuss it with her husband, she makes an effort but is unsure if he is actually following what she is communicating to him or "if he simply pretends to understand". She mentions that his lack of responsiveness and communication often makes her feel like she is "alone" and is "simply talking to the wall"'*. Patricia describes a one-way communication interaction pattern that prevails in their post-aphasia relationship. There is a clear indication of exacerbated caregiver burden, frustration, loneliness and need for assistance. *'Patricia adds that it got to a point when she just needed to go on a holiday'*. This again relates back to impact of spousal roles and relationships and the resultant need for respite as described in the previous theme.

*'Patricia asks Carlos if he would like to go downstairs for a stroll. This is their evening routine. Carlos suddenly seems to lose interest in going out and wants to stay in. (...) Patricia reminds him again of how he usually looks forward to going downstairs and meeting a few neighbours who also go downstairs for their walks or to play with other children in the building. Her tone is however condescending, as though talking to a child'*. This tendency was observed on multiple occasions. Here Carlos indicated his disinterest in going downstairs, however, Patricia chose to 'remind' Carlos about how he felt about going downstairs. There is frequent use of elderspeak in Patricia's interactions with Carlos. The tendency to undermine the competence of the PWA is also prevalent in the conversations analysed using Communication Accommodation Theory (CAT), where perceptions about the aphasia lead to the caregivers undermining the competence of the PWA to convey and comprehend a message.

The competence of the pWA was also undermined when during the participation in group interactions, the other interacting family members did not actively include the PWA in the conversation. I observe this in conversations in both families. *'Clarence and Patsy engage in conversation with their niece's husband. The conversational input is mainly from Patsy and the man. Clarence listens and nods and switches to looking around a little, in between'* He participates as a silent listener who does not contribute much to the communication interaction. My observations also describe how *'Patricia and Pamela engage in conversation, while Carlos watches them and listens to parts of their conversation. The lack of engaging efforts on the parts of Patricia and Pamela makes it easy for him to get distracted. Carlos sips away at his beverage. Patricia and Pamela have not seen each other in a while and have a lot to catch up on. It probably does not strike them that Carlos probably feels the same way, and even if it does strike them, they do not have the right supports to facilitate (his participation).'* Throughout this conversation, Carlos appears left out and neglected.

#### **8.4.5 "Do this, do that": Disappointment with therapy**

The reports and behaviour of both families indicated that their experiences with the speech language therapy related to an impairment-based approach to rehabilitation. In the extract illustrated in section 8.4.2, from my observations of Patsy and Clarence, Patsy uses

material that is not age-appropriate to support Clarence's ability to re-learn and write down his numbers. The book prescribed as material to aid the relearning of numbers, was possibly owing to Clarence's professional history. However, in consideration of his retirement and his communication needs, a focus on effective communication strategies may have been more appropriate. The focus on relearning within the home setting, may be 'face threatening' for the PWA, although highly dependent of the orientation of the caregivers to such a task and the purpose and willingness with which it occurs (Bauer & Kulke, 2004). In addition, the prolonged use of such age-inappropriate material may not be perceived well by the PWA.

Similarly, Patricia describes the test tasks that the SLT instructed Carlos to perform. She specifically describes how Carlos would often get frustrated about the tasks he was instructed to perform by the SLT's which caused him to get angry with them. *Patricia added that they had then requested to not continue the sessions until Carlos was doing better in 'other aspects'.* She expressed her thoughts on inappropriateness of the task in consideration of Carlos's low levels of consciousness at the time and their consequent withdrawal from speech therapy. Patricia, brings out Carlos's medical folder and shows me his reports, wherein there is a mention of his diagnosis—'Motor Aphasia'. I make an observation in my records that *'she describes tasks that he (Carlos) was instructed to do which resembled the sub-tests of the Western Aphasia Battery (Kertesz, 1982). Patricia goes on to express her disappointment with the speech and language therapy services they received. She adds that they paid no consideration to his condition but went on repeatedly instructing him to carry out tasks, all or most of which, he was unable to do and only resulted in more frustration.'* Here, the perceived lack of consideration of Carlos's abilities during assessment and intervention, was evidently upsetting both Patricia and Carlos.

#### **8.4.6 "Unga yae": Residential area, neighbourhood friends and social opportunities**

For Carlos and Patricia, living in an apartment complex had some social benefits. *'(Patricia) talks about how some neighbours are nice and understanding and how some of them come visit him occasionally which he really enjoys especially as he does not go out that much.'* For Carlos and Patricia who have had significant changes to their social lives following Carlos's stroke and aphasia, particularly in terms of not being able to go out, living in a residential complex allows them the access and opportunity to friendly interpersonal interaction. On another occasion, when Patricia, Carlos and myself go downstairs to the basement for a stroll, *'Patricia tells me about what usually happens when they go on their stroll— Carlos enjoys bumping into a few neighbours and exchanging smiles or handshakes. He watches the children play, they come and greet him and likes a few of them- "the good ones", referring to the ones who acknowledge and chat and greet Carlos and Patricia'.*

For Clarence and Patsy, living with Peter in a joint family set up increases the opportunity to meet more people. Clarence has two primary communication partners—his wife Patsy and his brother Peter. During one of my visits, I observe *'Patsy is delighted to be having some family over.'* Patsy had informed me that Peter's daughter and his son-in-law were visiting for the weekend. On days when the family members are busy, they go through periods of the day with no communication interaction.

In both the participant families I observed that the presence of children appeared to lift the mood of the PWA. For Carlos, photos of his grandson often served as a conversation starter. For Clarence, there was a friendly neighbourhood boy who enjoyed visiting Pasty, Peter and Clarence and telling Clarence about his day at school. In an instance involving the neighbour's son, *'Clarence calls out once more, this time looking at the boy and gesturing to him to come over. He then says "unga yae" (which translates to 'come here') while looking at the boy and pointing to me. (...) Clarence keeps smiling at the boy and beckons him to come over to where we are seated. He does this quietly and using gestures only'*. These extracts suggest the impact interaction with children has on older adults with aphasia who otherwise have limited social lives.

### **Summary**

The impact of aphasia on these couples was far-reaching for both the PWA and the spouse. The design and adaptation of the Communication Partner Training (described in Chapter 7, section 7.4) was influenced by these observations. In addition, it was apparent that the impact beyond communication and conversation needed to be considered. The Stroke and Aphasia Quality of Life Scale- 39 (SAQOL-39) and SoC was therefore used to gain insight into the impact of aphasia on these broader features of wellbeing (described in chapter 11).

### **8.5 Conclusion**

This chapter described the context of the everyday lives of pWA and their families living in India. The sense of loss, the challenges with communication and access to social participation and its impact on their well-being are evident from the findings. The challenges are often exacerbated by the reduced access to services, a lack of awareness of aphasia by members of the community. Family members are observed to acquire new caregiving duties which has a consequential impact on their social, mental, emotional, and physical well-being. The need for respite for the family caregivers is evident. The need to be able to engage in general and intimate conversation is highlighted from the observations with a clear preference for verbal communication. There is a need for social and community support groups where the families can talk and share their stories, their challenges, and their joys. There is a sense of helplessness surrounding ways to help each other out which may be associated with the insufficient access to knowledge about the person's aphasia. The positive impact of living in a residential area alongside families with children is evident from the findings for these two families and is suggestive of the impact children have on older adults with aphasia. These findings suggest the need to consider the context more closely when adapting the CPT-In intervention. With pWA and their families being the target beneficiaries of this intervention, the need to consider family member availability, capacity to attend multiple sessions, their own preferences, and goals; create opportunities to allow for sharing experiences and expertise through participant-led discussions; to ensure inclusion of a knowledge provision session to support their understanding of aphasia and its impact, is evident from the findings described.

The findings provide insight into some of the adjustments made by the primary caregivers to communicate with, interact, care for, and support their loved one with aphasia. In both families, the wife who was the primary caregivers was observed to devote most of her time to caring for their respective husbands. For the second family however, the presence of



additional family (semi-joint family) and domestic help allowed the wife to be able to continue to carry out her own chores and engage with essential activities beyond her care duties. The findings also suggest the potential for extending training to include family members beside just the spouse or partner of the PWA as CPs to be trained (CPT-In) in the next phase of the study.

## 9 The impact of aphasia on dyadic conversation

This chapter presents the findings of the study in relation to conversational support and participation in interactions involving people with aphasia (pWA) and their communication partners (CPs) who have *not* received communication partner training (CPT). The findings presented in this chapter represent analysis of conversations from 14 dyads, including the baseline conversations of the 6 dyads in which the CP later participated in CPT. In section 9.1 the conversations are considered from the perspective of rating on the Kagan Scales (Kagan et al., 2001). Section 9.2 presents an orientation to the data analysed using Communication Accommodation Theory (CAT), in terms of the types of adjustment observed across dyads. In sections 9.3 and 9.4, the facilitative and obstructive strategies used by the CPs and the people with aphasia are discussed respectively using illustrative extracts from the data. Section 9.5 summarises the findings described in this chapter. All the names used in this chapter and throughout this thesis are pseudonyms. The **clients** (C) with aphasia are given names beginning with C, in contrast to the names used for the **partners** (P), in which the pseudonyms begin with P.

### 9.1 Support and participation in conversation involving people with aphasia and their primary CPs

The Kagan Scales provide a means to rate the degree of support provided by the CP and the extent of participation of the person with aphasia (PWA). As described in Chapter 6, the scales comprise two subscales, the Measure of Support in Conversation for Adults with aphasia, abbreviated as (M)SCA, and the Measure of Participation in Conversation for Adults with aphasia, abbreviated as (M)PCA. Higher scores on the (M)SCA indicate higher levels of communication support by the CP, with higher scores on the (M)PCA indicated higher levels for conversational participation by the person with aphasia. A total score of 4 indicates that the CP and the pWA were observed to engage successfully in conversation over 75% of the time. Table 9.1 summarises the findings from the video recorded conversational interactions involving untrained CPs in each of the 14 dyads.

The ratings demonstrate that, on average, CPs successfully acknowledged the competence and supported their partners with aphasia in approximately 50% of the opportunities within a conversation and, similarly, the pWA were observed to make successful attempts to participate, understand and communicate a message approximately 50% of the time [(M)SCA<sub>mean</sub>=1.80; (M)PCA<sub>mean</sub>=2.27].

The highest baseline average for communication support related to dyad 8 [(M)SCA=3.86] and was matched by the average participation score [(M)PCA=3.83] for the person with aphasia in the same dyad – suggesting that increased support offered by the CP may be associated with increased participation by the pWA in that conversation. Indeed, analysis of the relationship between the (M)SCA and the (M)PCA for all the testing points (n=40) indicate that there was a strong positive correlation (Pearson's correlation= 0.754; p<0.01, two-tailed). This indicates that the (M)SCA and the (M)PCA have a statistically significant linear relationship and greater scores on the (M)SCA are associated with greater scores on the (M)PCA. However, this correlation does not apply to some outlier dyads as evidenced from the data in table 9.1. From figure 9.1, it could be suggested that the

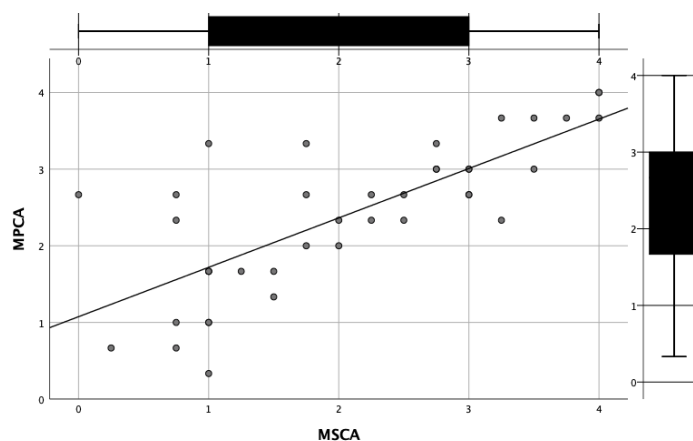
correlation between the (M)SCA and the (M)PCA is observed to be enhanced where the (M)SCA is higher (>2), in other words, it may be the case that a threshold of communication support is required before it influences the degree of participation on the part of the pWA.

**Table 9.1 Average (M)SCA and (M)PCA Scores for participants in dyads 1 – 14 across baseline conversations**

| Dyad no. | CP               | Sex | PWA        | Sex | No. of conversations | (M)SCA*        | (M)PCA*        | Total*      |
|----------|------------------|-----|------------|-----|----------------------|----------------|----------------|-------------|
| 1        | Payal            | F   | Chet       | M   | 3                    | 2.33           | 2.67           | 2.48        |
| 2        | Paarth           | M   | Chandrak   | M   | 3                    | 1              | 1.11           | 1.05        |
| 3        | Pavmani          | M   | Chaitali   | F   | 3                    | 1.33           | 1.11           | 1.24        |
| 4        | Pritika          | F   | Charuhaas  | M   | 3                    | 0.92           | 1.44           | 1.14        |
| 5        | Pavan            | M   | Chirag     | M   | 2                    | 1.5            | 2              | 1.71        |
| 6        | Padam            | M   | Charvi     | F   | 2                    | 1              | 1              | 1           |
| 7        | Padma            | F   | Chitesh    | M   | 3                    | 2.92           | 2.78           | 2.86        |
| 8        | Pallavi          | F   | Chetak     | M   | 2                    | 3.86           | 3.83           | 3.86        |
| 9        | Panbu            | F   | Chandraraj | M   | 2                    | <b>0.38</b>    | <b>2.5</b>     | 1.29        |
| 10       | Panchavati       | F   | Charun     | M   | 1                    | <b>1.75</b>    | <b>2.67</b>    | 2.14        |
| 11       | Panisthi         | F   | Coshel     | M   | 1                    | 2.5            | 2.67           | 2.57        |
| 12       | Pankaja          | F   | Chinna     | M   | 1                    | 2.75           | 3              | 2.86        |
| 13       | Preetham         | M   | Chetana    | F   | 1                    | <b>1.75</b>    | <b>3.33</b>    | 2.43        |
| 14       | Patricia         | F   | Carlos     | M   | 1                    | 1.25           | 1.67           | 1.43        |
|          | <b>Mean (SD)</b> |     |            |     |                      | 1.80<br>(0.96) | 2.27<br>(0.89) | 2<br>(0.87) |
|          | <b>Min</b>       |     |            |     |                      | 0.38           | 1              | 1           |
|          | <b>Max</b>       |     |            |     |                      | 3.86           | 3.83           | 3.86        |

\* Represents mean rating across all items and all conversations in the ‘untrained’ condition for each dyad

+ Represents the mean of the two subscale scores for each dyad



**Figure 9.1 Linear regression plot of the (M)PCA versus the (M)SCA for all baseline and follow up conversations (n=40) from the 14 dyads.**

To better understand the ways in which CPs acknowledged the competence of the pWA and supported their participation, as well as to investigate the strategies used by the pWA

to participate in the conversation, an analysis of their communicative behaviours was carried out using Communication Accommodation Theory (CAT) as described in chapter 6). CAT suggests that when people engage in interaction, they adjust their communicative behaviour based on that of their interlocutors as well as broader factors relating to the context and assumptions about each other. CAT provides a means to more closely examine the nature of the adjustments made by both the CP and the person with aphasia. CAT therefore gives us the opportunity to better understand the relationship between the communicative behaviour of both the CPs and the pWA and is useful to shed light on how the support interacts with participation in some, but not all, dyads.

### **9.2 Adjustment in conversation**

People with aphasia were observed to adjust their communicative behaviour in the context of that of their conversation partners and vice-versa. The adjustments made include changes to the 'medium' of communication (language, modality, or style), the use of non-verbal supports such as gestures, pointing and written keywords, the topic/content of the discussion, the rate of speech, and intonation. The adjustments made in each turn of the conversation influenced the adjustments made in the turns that followed and were therefore observed to impact on the participation and effectiveness of the interaction positively or negatively.

Intentional and unintentional adjustments in the conversational styles were observed as being used by both the people with aphasia and their CPs. Both interlocutors were observed to use facilitative adjustments including accommodation and reluctant accommodation as well as obstructive adjustments including nonaccommodation and avoidant communication (see table 9.2 for an overview of the data). In addition to these categories of accommodation types described in the literature on CAT, two further categories were identified in the data. These categories account for adjustments that are not captured by the original categories and entail adjustments where constraints on communication are imposed by aphasia. The two additional categories proposed include *Constrained Accommodation* and *Unavoidable Nonaccommodation*. *Constrained Accommodation* may be perceived as 'underaccommodation' by the listener. *Unavoidable Nonaccommodation* may be perceived as 'nonaccommodation' or 'avoidant communication' by the listener. Constrained accommodation (facilitative) and unavoidable nonaccommodation (obstructive) were adjustments observed in the conversational turns of the participants with aphasia, due to the nature of the aphasia.

### **9.3 Facilitative adjustments**

Facilitative adjustments were made by both the CPs and the people with aphasia during interaction. These adjustments took various forms depending on the purpose of the adjustment and were also dependent upon the ability of the interlocutor to make the adjustments they may have intended to make (in particular, the impact of the aphasia and the knowledge and skills of the CP. Broadly two main categories of facilitative adjustments were observed and identified in the data— accommodation (section 9.3.1) and constrained accommodation (section 9.3.2). In some dyads, a few instances of reluctant accommodation were observed (section 9.3.3).

**Table 9.2 Types of adjustment observed across dyads**

| Type of adjustment                  | Definition  | Displayed by CPs in dyad | Displayed by pWA in dyad | Analysis presented in section: |
|-------------------------------------|---|--------------------------|--------------------------|--------------------------------|
| <b>Facilitative Adjustments</b>     |   |                          |                          |                                |
| <b>Accommodation</b>                | refers to the adjustment in communication that usually serves to improve the communicative interaction, reduce differences and enhance the meaningfulness and effectiveness of the communication.                                 | 1-14                     | 1, 3, 4, 7-10, 13 and 14 | 9.3.1                          |
| <b>Constrained Accommodation</b>    | Refers to instances in which an individual makes adjustments in communicative behaviour but <b>not to the extent desired</b> , resulting in partial hindering of effective communication and/or increased social distance.        | -                        | 1-14                     | 9.3.2                          |
| Reluctant Accommodation             | refers to the adjustment in communicative behaviour that occurs when an individual converges to the style of the interlocutor in consideration of the societal and hierarchical norms and not due a personal desire for affinity. | 13                       | 3, 6, 14                 | 9.3.3                          |
| <b>Obstructive Adjustments</b>      |   |                          |                          |                                |
| Nonaccommodation                    | refers to the adjustment in communicative behaviour that functions to increase the social distance between interlocutors or hinder effective communication  | 1-14                     | -                        | 9.4.2                          |
| <b>Unavoidable Nonaccommodation</b> | Refers to instances in which an individual is <b>unable</b> to make adjustments in communicative behaviour, resulting in unavoidable hindering of effective communication and/or increased social distance                        | -                        | 1-14                     | 9.4.1                          |
| Avoidant Communication              | refers to the adjustment in communicative behaviour that occurs when an individual withdraws from participation in communication due to a prior negative experience, stereotypes, etc.  | 2, 4, 6, 13              | 1- 8, 10, 14             | 9.4.3                          |

### 9.3.1 Accommodation

Accommodative adjustments were observed by both, CPs and pWA in the form of adjustments made to facilitate a meaningful and interactive communicative exchange. The CPs and the people with aphasia were observed to partially accommodate to each other to achieve three main outcomes— reduced differences in the style of communication, enhanced effectiveness of the communication and to enhance the overall communicative experience. The strategies employed to achieve these outcomes included— convergence, accommodative discourse management strategies, accommodative interpretability strategies, and some instances of accommodative strategies related to emotional

expression. In the majority of the dyads with the exception of dyads 6, 7 and 11, there was observed, increased attempts at accommodation by the pWA in comparison to that by the CP. These findings for dyads 6 and 7 are reflected in the evaluations of their conversation using the Kagan scales as well. For both these dyads, the measure of support (acknowledging and revealing the competence of pWA) provided by the CP to the person with aphasia (MSCA) was higher than the measure of participation (engagement and transaction) in conversational interaction by the pWA [(M)PCA]. However, despite the increased attempts by the pWA, due to the nature of their aphasia, a lot of these accommodations were constrained and hence described in section 9.3.2. The strategies that served to accommodate to the interlocutor during communication are described with illustrative examples.

### 9.3.1.1 Convergent strategies

CPs were observed to incorporate non-verbal communication strategies used by pWA such as the use of pointing, gestures, facial expressions; switch the language used; and reduce the rate of speech to resemble that used by the pWA. pWA produced verbal utterances (often in the form of verbal repetition); engaged with the non-verbal strategies initiated by the CP in some instances; engage with the content of the verbal test/practice tasks initiated by the CP; and were also observed to switch between languages used by the CP.

In extract 9.1, Padma and her brother Chitesh who has aphasia are engaged in a discussion about how Chitesh used up some money that he had earned.

Extract 9.1 (dyad 7)

|    |         |  |
|----|---------|--|
| 1  | Padma   | ippaTu rupai ((gesture indicates 'two'))<br><i>twenty rupees</i>   |
| 2  | Chitesh | ah ((nods head in acknowledgement ))   |
| 3  | Padma   | yaen maadiDae? ((writes keyword down))<br><i>what did you do?</i>  |
| 4  | Chitesh | ippaTu?<br><i>twenty</i>   |
| 5  | Padma   | ahh yaen yaen maadiDae? ((nods head to say 'yes'; hand gesture indicates 'what'))<br><i>ahh what all did you do with it?</i>   |
| 6  | Chitesh | Chimpo Chimpo <sup>1</sup> ((points to the written keyword ))  |
| 7  | Padma   | Ahh ((nods head in acknowledgement ))  |
| 8  | Chitesh | ((facial expressions and head nod indicate 'over'))  |
| 9  | Padma   | kaali maadbittae? kaali? ((hand gestures indicates 'eating food', facial expressions and head nod and hand gestures indicate 'over, gone' suggesting, 'all spent on food'))<br><i>You've made it empty? Empty?</i> |
| 10 | Chitesh | kaali kaali kaali ((facial expressions, hand gesture and head nod indicate 'over'))<br><i>Empty empty empty</i>  |

During this conversational exchange, both Padma and Chitesh are observed to adjust their communication styles to minimise the differences between them and to enhance the meaningfulness of their communication: Padma introduces the use of gestures, perhaps to ensure that Chitesh is able to comprehend what she is conveying to him (line 1). In the turns that follow, Chitesh is observed to also use gestures. In line 3, Padma uses a written

<sup>1</sup> Chimpo—non-word

keyword to support their conversation—the keyword is used by Chitesh again in line 6. In this way, both participants in the dyad converge to each other by using verbal, gestural and written modalities together in support of their communication.

In several conversations, convergence occurs in the context of non-accommodative demands in the form of test-questions from the CPs. The PWA in these instances, acquiesces to the demands, converging to the content of the interaction. An example is provided in extract 9.4 (dyad 9). This pattern of ‘convergence occurring in the context of nonaccommodation’ is discussed further with more examples in section 9.4.2.2.

In extract 2 from dyad 4, Pritika asks her father- Charuhaas, who has Wernicke’s aphasia, a question about the colour of her dress – a test question. The question is asked in Hindi which is their mother tongue. Charuhaas, a retired English professor, responds to her in English (line 48), an example of unavoidable nonaccommodation by way of divergence. Convergence follows, however, when in line 49 Pritika adjusts her responses by including more English alongside a few words in Hindi. By adjusting her linguistic style, Pritika converges to the linguistic style of her father.

*Extract 9.2 (dyad 4)*

|    |           |  |
|----|-----------|--|
| 44 | Pritika   | meri dress ka colour kya hae papa?<br>What is the colour of my dress dad?  |
| 45 | Padmini   | ((appears very tired and restless, walks off))   |
| 46 | Charuhaas | uh? ((turns to look at the CP 1))<br>what?   |
| 47 | Pritika   | yae meri dress ((holding fabric of her dress up for PWA to see)) kis colour ka hae?<br>This my dress ((holding fabric of her dress up for Yuvraj to see)) which colour is it?  |
| 48 | Charuhaas | uhh it’s a (.) very much a (.) uh (.) inviting   |
| 49 | Pritika   | but still which colour? ((holding up fabric of her dress and shaking it for PWA to see)) Which colour?   |
| 50 | Charuhaas | it is a mixed colour ((looks at the fabric being shown to him))  |
| 51 | Pritika   | no mixed colour hai, maTlab more prominent which colour it is papa?<br>((holding up fabric of her dress and shaking it for PWA to see))<br>no, it is a mixed colour, but I mean, more prominent which colour it is papa? |

In this dyad, it is unclear if the social value of the convergent adjustment is upward or downward, however, in consideration of the occupational background of Charuhaas, it could be suggested that English may be considered the more ‘prestigious’ language.

Convergence to the rate of speech and sentence structure of the PWA is demonstrated in extract 3 (dyad 8). Pallavi converges towards the conversational style of her husband, Chetak, who has aphasia by reducing her rate of speech to that similar to his and acknowledging and responding to his responses. The reduced rate of speech would also allow Chetak more time to process Pallavi’s message and respond. In line 57, Pallavi verifies her understanding of Chetak’s syntactically incorrect message (line 56) by asking a yes/no question. By acknowledging his input, verifying and responding to it with short sentences

and increased pauses between words phrases and parts of questions (see lines 57-67), she reduces the differences in their communication styles.

In the turns displayed in extract 3, Pallavi thus converges to more than one aspect (multimodal) of Chetak's conversational style. The husband who has difficulty in producing verbal speech, responds to the wife's questions verbally, but with one-word responses. In doing so, Chetak converges to the verbal mode of conversation initiated by Pallavi but refrains from using longer sentences and elaborating on his responses unless necessary. In the turns displayed in this extract, Chetak converges partially to one aspect (unimodal) of the Pallavi's conversational style.

*Extract 9.3 (Dyad 8)*

|     |         |   |
|-----|---------|---|
| 50  | Chetak  | ek maheenae ((raises index and middle fingers up)) uh Do (raises index and middle fingers up; RI: 'two')) maheena (0.2) ek ((raises index finger; RI: 'one')) bas one month ((raises index and middle fingers up)) uh two (raises index and middle fingers up; RI: 'two')) months (0.2) one ((raises index finger; RI: 'one')) only   |
| 51  | Pallavi | Do maheena ek bas ((nods head to indicate 'did not')) nahi samajaya mujhae two months, one only, ((nods head to indicate 'did not')) I couldn't understand that.  |
| (-) |         |   |
| 54  | Chetak  | aa ((looks up thinking)) (0.3) aur ((points to his throat )) (0.2) aur Do ((uses fingers to indicate 'two')) maheena (0.8) ((closes eyes and moves index finger on the table drawing out the words he intends to say)) speech Tepai (.) ((moves index finger on the table drawing out the words he intends to say)) Terapy aa ((looks up thinking)) (0.3) and ((points to his throat )) (0.2) and two ((uses fingers to indicate 'two')) months, maheena (0.8) ((closes eyes and moves index finger on the table drawing out the words he intends to say)) speech (therapy) (.) ((moves index finger on the table drawing out the words he intends to say)) therapy |
| 55  | Pallavi | hm ((nods head in acknowledgement ))  |
| 56  | Chetak  | Do maheena only hae ((uses fingers to indicate 'two', uses fingers to indicate 'one')) two months, only is ((uses fingers to indicate 'two', uses fingers to indicate 'one'))   |
| 57* | Pallavi | karTae hae? ((nods head))<br>doing it? ((nods head))  |
| 58  | Chetak  | hae ((nods head))<br>is ((nods head))   |
| 59  | Pallavi | aCha. (.) aapko acha lagTa hae (.) nimhans mae aana?<br>right, did you feel it was good, coming to NIMHANS?   |
| 60  | Chetak  | ha ((nods head))<br>yes ((nods head))   |
| 61  | Pallavi | hm?<br>Pardon?  |
| 62  | Chetak  | ha ((nods head to confirm 'yes'))<br>yes ((nods head to confirm 'yes'))   |
| 63  | Pallavi | or jo homeworks aap yaha milTa hae (.) or sikhatae, aap ghar mae practice karTae ho ((nods head))?  |



|    |         |  |
|----|---------|--|
|    |         | and the homework you get and what you are taught, do you practice at home ((nods head))?                               |
| 64 | Chetak  | ha ((nods head to say 'yes'))<br>yes ((nods head to say 'yes'))  |
| 65 | Pallavi | saChi saChi (.) sarae Cheeze. Jo bhi milTa hae<br>truthfully truthfully (.) Everything, whatever it is you are getting |
| 66 | Chetak  | ha ((nods head to say 'yes'))<br>yes ((nods head to say 'yes'))  |
| 67 | Pallavi | practice karTae hae?<br>do you practice ?  |

Extract 9.4 (dyad 9) illustrates a conversation between Chandraraj and his CP - his wife, Panbu, during the second baseline session. Their adult granddaughter Panchi was also present during this session and participated in a few turns. In this extract, the couple are engaged in a repetition task initiated by the CP. Chandraraj complies with the task and responds with verbal repetition. In his responses, Chandraraj converges to the verbal mode of communication despite his difficulty with verbal communication and accedes to the request of Panbu to engage in the test / practice task which forms the content for the interaction. Chandraraj converges both to the medium of interaction as well as the content used for interaction. The extent of convergence by the PWA in this instance is therefore multimodal.

*Extract 9.4 (Dyad 9)*

|       |            |                          |
|-------|------------|--------------------------|
| 224   | Panbu      | Cheppu<br>say            |
| 225   | Chandraraj | ha                       |
| (...) |            |                          |
| 253   | Panbu      | supriTa (name of person) |
| 254   | Chandraraj | supriTa (name of person) |
| 255   | Panbu      | gopal (name of person)   |
| 256   | Chandraraj | gopa (name of person)    |
| 257   | Panbu      | gopal (name of person)   |
| 258   | Chandraraj | gopa (name of person)    |
| 259   | Panbu      | supriTa (name of person) |
| 260   | Chandraraj | supriTa (name of person) |

The convergence observed in the part of the CPs involved an increase in the use nonverbal supports such as pointing and gestures in extract 1 (dyad 7), keywords (dyad 3), switching the language spoken in extract 2 (dyad 4), reducing the rate of speech in extract 3 (dyad 8), to reduce the differences and maintain the flow of conversational interaction. In majority of the convergent turns, the extent of convergence was observed to be partial, that is, the CPs only partially adjusted their communication style to reduce the differences from the style of the PWA. The social value of the convergence was downwards in majority of the turns, that is, it the adjusted conversational style would typically be considered the less preferred style by the group of neurologically healthy people to which the CPs belong.

pWA were observed to produce verbal utterances (see extract 3), repeat verbal productions by the CPs (see extract 4), engage with nonverbal supports initiated by the CPs

(see extract 9.1) engage with the content of the verbal test/practice tasks initiated by the CP (see extract 4), switch languages used to maintain the flow of conversational interaction and increase the similarities to their interacting CPs conversational style. In majority of the convergent turns, the extent of convergence was observed to be partial, that is, the PWA only partially adjusted their communication style to reduce the differences from the style of the CP. The social value of the convergence was upwards in majority of the turns, i.e., if the verbal style would typically be considered the preferred style (Singh & Pauranik, 2017) by the group of neurologically healthy people to which the CPs belong and to which the pWAs previously belonged. This may be considered an attempt to preserve their identity as belonging to the group of their typically communicating family members and friends or may be an attempt to participate in a largely verbal exchange.

### 9.3.1.2 Accommodative discourse management strategies

Accommodative discourse management strategies were used by both the CPs and the people with aphasia to maintain the feel and flow of the interaction and / or facilitate meaningful conversational interaction. CPs were observed to use accommodative discourse management strategies by responding to the nonverbal input of the PWA, switching the language used, simplifying questions, picking familiar topics, providing time, asking yes/no questions, using nonverbal supports such as pointing, gestures, with occasional use of written keywords and props to provide the PWA with support to engage and participate in a meaningful two-way interactive exchange and/ or maintain the flow of conversational interaction. pWA used accommodative discourse management strategies responding actively to take turns, acknowledging and responding to the CPs verbally communicated messages, using non-verbal supports such as keywords, pointing and gestures in their interactions.

In extract 9.5 of dyad 13, Preetham (CP) asks his wife Chetana (PWA), if she would be willing to attend speech therapy sessions at the hospital.

#### Extract 9.5 (Dyad 13)

|     |          |   |
|-----|----------|---|
| 162 | Preetham | nodTiya training TegoldTi? ((nods head))<br>will see? Take the training?  |
| 163 | Chetana  | (unintelligible effortful speech) ((extends arm backwards, and does the Indian head nod; RI: 'too far'))                  |
| 164 | Preetham | Duuru agaTa barralike? ((smiles and nods in acknowledgement of what the PWA is saying))<br>It gets too far to come is it? |
| 165 | Chetana  | (hmm maTTe aga hmm) ((Looks at the researcher, Indian head nod)) (hhh)<br>Hmm, then                                       |
| 166 | Preetham | hmm hmm hm hm ((smiles and nods in acknowledgement of what the PWA is saying ))   |

Chetana responds with unintelligible spoken output, gestures and facial expressions indicating it would be too far to travel. Preetham does not adjust his own style but acknowledges the 'constrained adjustment' made by Chetana and responds by verifying his inference from her largely non-verbal utterance. Preetham acknowledges Chetana's competence through his rephrasing of her utterance. His verbalisation of his interpretation of her message acts as a discourse management strategy, allowing her a space to express

herself in a way she is comfortable, through accommodating to the communication needs of his wife.

In extract 9.6 (dyad 2), Paarth (CP) is asking his father - Chandrak about whether he is able to make a phone call and talk on the phone. He uses an example of a particular family member.

*Extract 9.6 (Dyad 2)*

|    |          |   |
|----|----------|---|
| 5  | Paarth   | mukeshappaange (name; relationship: family member) phone um chesThod uh?<br>Are you going to make a phone call to Mukesh uncle? |
| 6  | Chandrak | (yene)<br>What?   |
| 7  | Paarth   | mukeshappaange (name; relationship: family member)?<br>To Mukesh uncle?   |
| 8  | Chandrak | (Unintelligible utterance)  |
| 9  | Paarth   | ah?<br>What?  |
| 10 | Chandrak | (Unintelligible utterance) (( <i>interrogative tone, turns to look at PWA. drinks water</i> ))                                  |
| 11 | Paarth   | mukeshappaange (name; relationship: family member)?<br>To Mukesh uncle?   |
| 12 | Chandrak | ah (( <i>drinks water</i> ))  |
| 13 | Paarth   | phone chesThod va?<br>Are you going to call?  |
| 14 | Chandrak | (( <i>drinks water, nods head</i> ))  |
| 15 | Paarth   | Hailu<br>say  |
| 16 | Chandrak | (Unintelligible utterance)  |
| 17 | Paarth   | fone madThiya?<br>Are you going to call?  |
| 18 | Chandrak | (( <i>closes bottle</i> )) (unintelligible utterance)   |
| 19 | Paarth   | fone, madThiya? mukeshappanige fone madThiya ivaga alla?<br>Are you going to call? You call Mukesh uncle yeah?                  |
| 20 | Chandrak | (Unintelligible utterance) (( <i>wipes face with left hand</i> ))   |
| 21 | Paarth   | pfone maTadak agalla (( <i>shakes head</i> ))?<br>You aren't able to talk on the phone?   |

In line 6, Chandrak demonstrates use of discourse management strategies by taking turns and attempting to respond verbally. He uses his verbal response to request a clarification of the question posed by Paarth in his mother tongue. Paarth in turn, breaks down the question across lines 7-13 in the same language before switching to the second language (Kannada) in line 15. Chandrak, however, attempts to express himself verbally (see lines 16-20) but is unable to do so owing to nature of his aphasia. In extract 9.6, the feel and flow of conversation is maintained to some extent using the discourse management strategies of code switching, simplification and turn taking. However, Despite Paarth's accommodation by repeating his question and breaking it down into smaller segments, Chandrak was insufficiently supported to respond meaningfully and accurately. It could be suggested that the potential use of accommodative interpretability and discourse-

management strategies such as keywords and gestures would have allowed Chandrak to opportunity to respond more accurately.

In extract 9.7 (dyad 1), Payal and her younger brother Chet, who has aphasia, are discussing a work-related matter. Payal chooses a topic of relevance to her brother (see line 9), provides him with time to respond and frames her questions to elicit a yes/no response (seen in lines 9, 11 and 15) to support her brother's ability to respond with little difficulty.

*Extract 9.7 (Dyad 1)*

|    |       |  |
|----|-------|--|
| 9  | Payal | sari iiga xerox machine ivaga ready clear iDa?<br>right, now is the xerox machine ready?   |
| 10 | Chet  | <i>(ahhh. Sa) ((Head nod and hand gesture indicating 'yes'))</i>   |
| 11 | Payal | howuDu niinu ii rubber stamp niine hogi bittu avanu omme bariDu kottou niive TarboDagiTu alla?<br>Yes, this rubber stamp, you yourself could have gone, he could have for once written and given and you yourself could brought it yeah? |
| 12 | Chet  | <i>(Duh uuhhh ah) ((closes fist and moves it downward towards the table; researcher's interpretation: 'stamping'))</i>   |
| 13 | Payal | Ha ((Head nod to say 'yes'))   |
| 14 | Chet  | <i>(Duh uuhhh ah) ((gestures writing))</i>   |
| 15 | Payal | avanu barralva barike?<br>He does not know to write is it?   |
| 16 | Chet  | <i>((nods head in acknowledgement of what CP is saying, Points into the distance and points back to himself))</i>  |
| 17 | Payal | baruTaa?<br>Can do?  |
| 18 | Chet  | <i>(ha) ((nods head in agreement))</i>   |

Although Payal maintains her verbal modality throughout, she acknowledges and responds to all modes of communication used by Chet. These discourse management strategies of topic-management, providing time and use of yes/no questions, allowed Payal to acknowledge the competence of her brother Chet and encourage his participation in the conversational interaction. Chet uses head movements (lines 10 and 16), gestures and pointing (lines 10-16) to support the messages he attempts to convey in each turn of the interaction and thereby maintains the flow of interaction and meaningful two-way exchange of information. These accommodative strategies simultaneously act as discourse management and interpretability strategies in support of the communication.

Further into the conversation (see extract 9.8), Payal and Chet are discussing receiving their order of a new hand-held 'rubber stamp' (used to imprint seals of authenticity/approval or addresses) for their business. Payal advises her brother to practice his ability to speak more and in the meanwhile continue to work and make use of the new rubber stamp. Chet tries to negotiate and discuss some of the challenges and his plans using written keywords to support his discussion (lines 50 and 56). Payal acknowledges and clarifies her inferences by asking short yes and no questions (line 57). This meaning-negotiation and accommodation has occurred across lines 57 to 68, that is 6 turns each. In this conversational exchange Chet uses written keywords as an accommodative discourse management strategy to support his turns and can convey his message to Payal. Payal in turn accommodates to Chet

using discourse management strategies of short, simplified questions and engaging with his use of written supports.

*Extract 9.8 (Dyad 1)*

|       |       |   |
|-------|-------|---|
| 50    | Chet  | <i>((writes down something and turns towards CP))</i>   |
| 51    | Payal | yenu barTiDya? (draws sheet towards her, lifts it up and read, yawns, mumbles while yawning, places sheet back down and towards the PWA)<br>what are you writing? |
| (...) |       |   |
| 56    | Chet  | <i>((writes on the paper))</i>  |
| 57    | Payal | madimele wo angadi iDThane anTa helTaiDiya?<br>Are you saying that after doing it, he will remain in the shop?  |
| 58    | Chet  | <i>((nods head))</i>  |
| 59    | Payal | ah <i>((nods head))</i>   |
| 60    | Chet  | <i>((nods head in agreement. Puts pen down))</i>  |
| 61    | Payal | ninage kelsikkav iDara?<br>You have found a work seeker?  |
| 62    | Chet  | <i>nods head in agreement</i>   |
| 63    | Payal | iDara? barTara?<br>There is? Will come?   |
| 64    | Chet  | <i>Ha ((nods head in agreement))</i>  |

CPs were observed to provide time (see extract 9.5), respond to the nonverbal input of the PWA (see extract 9.5), switch language used (see extract 9.6-partial accommodation), simplify questions (see extract 9.6), pick familiar topics (see extract 9.7) and ask yes/no questions (see extract 9.7) to provide the PWA with support to engage and participate in a two-way interactive exchange and/ or maintain the flow of conversational interaction. Accommodative discourse management and interpretability strategies often work together to facilitate effective communication (Jones et al., 1999). The use nonverbal supports such as pointing, gestures (see extract 9.9) were also observed and has been described under Accommodative Interpretability Strategies (section 9.3.1.3). *pWA* were observed to actively take turns (see extract 9.6 and extract 9.7), acknowledge and respond to the CPs verbally communicated messages (see extracts 9.7 and 9.8), use non-verbal supports such as keywords (extract 9.8), pointing and gestures (extract 9.7) to maintain the feel and flow of the interaction and/ or facilitate meaningful conversational interaction.

**9.3.1.3 Accommodative interpretability strategies**

Both partners used interpretability strategies to support each-others ability to comprehend the messages being conveyed during communication. CPs were observed to switch language used, use nonverbal supports such as pointing, gestures and sometimes, use of written keywords and props to provide the PWA with support to comprehend the conveyed message. *pWA* were observed to use non-verbal supports such as keywords, pointing and gestures to facilitate the ability of the CPs to comprehend the conveyed message.

In extract 9.9, taken from baseline 1 of dyad 3, Pavmani and his wife Chaitali who has acute aphasia, are engaging in conversation about what might happen following discharge.

*Extract 9.9 (dyad 3)*

|      |          |  |
|------|----------|--|
| 103  | Pavmani  | (( <i>taps PWAs arm to draw her attention</i> )) disCharge madkond manege (( <i>partially raises his hand to point backwards over his shoulder; researcher's interpretation: 'go back'</i> )) hoganna?<br>Shall we get the discharge done (( <i>partially raises his hand to point backwards over his shoulder; researcher's interpretation: 'go back'</i> )) and go home?   |
| 104  | Chaitali | (( <i>nods head to say 'okay'</i> ))   |
| 105  | Pavmani  | hoganna (( <i>head nod indicates 'is that okay'</i> ))<br>will we go?  |
| 106  | Chaitali | (( <i>Indian head nod to say 'okay'</i> ))   |
| 107  | Pavmani  | yenu (( <i>closes fist with thumb raised; researcher's interpretation: 'what?'</i> )) madTiya alli maneyali sumane kuuTh irTiya? (( <i>moves hand up and down with palm facing downwards and towards the PWA; researchers Interpretation: remain seated'</i> ))<br>what (( <i>closes fist with thumb raised; researcher's interpretation: 'what?'</i> )) will you do at home? Will you simply be seated?? (( <i>moves hand up and down with palm facing downwards and towards the PWA; researchers Interpretation: remain seated'</i> )) |
| 108  | Pavmani  | (0.2) oota? (( <i>points to his mouth with fingers held together; researcher's interpretation: gestures 'eat food'</i> )) adige maduDa yaru?<br>Food? Who will do the cooking?   |
| 109  | Chaitali | (( <i>Indian head nod</i> )) ah (( <i>partially raises her hand to point backwards over her shoulder; researcher's interpretation: possibly gesturing a specific person</i> ))   |
| 110  | Pavmani  | yaru? Pooja madTara?<br>Who? Pooja will do it?   |
| 111  | Chaitali | (( <i>raises hand possibly gesturing a specific person, nods head, opens mouth</i> ))  |
| 112* | Pavmani  | nan (( <i>points to self</i> )) madabeka, pooja (( <i>partially raises his hand to point backwards over his shoulder; researcher's interpretation: possibly gesturing a specific person</i> )) madabeka?<br>Must I do it? Must Pooja do it?  |
| 113* | Chaitali | (( <i>Indian head nod, raises hand and places it on her cheek. Unclear</i> ))  |
| 114* | Pavmani  | pooja madabeka? (( <i>nods head</i> )) malkoldTiya (( <i>partially raises left hand and tilts head to rest it on his hand; Researchers Interpretation: 'sleeping'</i> )) alli?<br>Must Pooja do it? (( <i>nods head</i> )) Will you (( <i>partially raises left hand and tilts head to rest it on his hand; Researchers Interpretation: 'sleeping'</i> )) there?   |

In line 108, Pavmani asks his wife about her ability to carry out household chores such as cooking, following discharge from the hospital. He also asks Chaitali if she would want him to take over the household chores. Throughout the interaction the husband adjusts his communication by using gestures (line 103-108 and 112 and 116), asking yes/ no questions (lines 103, 105 and 117-127) and inferring Chaitali's non-verbal responses (lines 109-114) to ensure meaningful exchange of information and maintain the flow of the conversational interaction. Pavmani also uses interpretability strategies such as pointing and gestures (lines 103, 107, 108, 112-116) in an apparent attempt to ensure that his wife comprehends his message. Elsewhere in the conversation interaction, Pavmani took on the role as a trainer to train and encourage Chaitali to use gestures to communicate her wants and

needs (see extract 9.29). This suggests that Pavmani is actively trying to find a way for both him and his wife to mutually adjust their communication so as to be able to minimise the gaps in their communication and facilitate more effective interactions between them. In this extract, Chaitali herself uses head movements to respond and communicate her responses to her husband. In lines 120-126, Chaitali appears to correct Pavmani when he verifies his inferences based on previous turns (lines 110-120). Both Pavmani and Chaitali in this extract therefore make accommodative adjustments using interpretability and discourse management strategies.

Extract 9.9 (contd)

|     |          |   |
|-----|----------|---|
| 115 | Chaitali | (( <i>nods head to say 'okay'</i> ))  |
| 116 | Pavmani  | ah adige? ((taps PWAs arm)) adige maduDa yaru? ((folds fingers with thumb raised; Researchers Interpretation: 'who'))<br>yes cooking, who will do the cooking?          |
| 117 | Pavmani  | hotela? (( <i>nods head</i> ))<br>hotel is it?  |
| 118 | Chaitali | (( <i>nods head to possibly say 'okay' and in acknowledgement of what the CP is saying</i> ))   |
| 119 | Pavmani  | illa Pooja manege hoganna (( <i>nods head</i> ))?<br>If not, should we go to Pooja's (name of person, relationship: daughter) house?                                    |
| 120 | Chaitali | (( <i>shakes head but unclear if it conveys a 'yes' or a 'no'</i> ))  |
| 121 | Pavmani  | hotel (( <i>nods head</i> )) ga? (.) hotel inDa (( <i>head nod</i> )) idli Taruna?<br>To the hotel is it? Should get idli (Indian breakfast item) from the hotel is it? |
| 122 | Chaitali | (( <i>shakes head</i> ))  |
| 123 | Pavmani  | bedava? (.) pooja mane (( <i>nods head</i> )) na?<br>don't want? Pooja's house is it?   |
| 124 | Chaitali | (( <i>shakes head</i> ))  |
| 125 | Pavmani  | nane madla? (( <i>points to self</i> )) nane madabeka<br>I myself should do it?   |
| 126 | Chaitali | (( <i>Indian head nod</i> ))  |
| 127 | Pavmani  | sari aiTu (( <i>nods head</i> ))<br>right okay  |

In extract 9.10, taken from dyad 1, Payal brings up the topic of their late sister who had only recently passed way. She asks Chet whether her death brings about feelings of anger for him using a yes/no question (line 55). Chet responds using accommodative interpretability strategies by way of gestures in lines 56 and 58 to indicate that he feels no anger as she is in God's hands. Payal infers and verifies her understanding of Chet's gestures (lines 57 and 59) to ensure she has understood his responses to her questions accurately.

Extract 9.10 (Dyad 1)

|    |       |   |
|----|-------|---|
| 55 | Payal | Monjakka ninge yena kopa barutha?<br>Sister Monja, for you, does it bring about anger?    |
| 56 | Chet  | (( <i>nods head and laughs. hand gesture and head nod indicating 'no' or 'do not'.</i> )) |
| 57 | Payal | yen baralva?£<br>don't get at all?  |

|    |       |  |
|----|-------|--|
| 58 | Chet  | ((looks upwards with both arms pointing up and slightly raised; vocalises to get CPs attention. Partially raises both hands and points upwards looking up RI: possibly indicating person spoken about is with God.)) |
| 59 | Payal | Devra kai alli avlu? ((looks down smiling))<br>she is in God's hands, is it?   |
| 60 | Chet  | ((nods head in agreement))   |

CPs were observed to switch language used (see extract 9.6, lines 15 to 21), use nonverbal supports such as pointing and gestures (extracts 9 and 10) to provide the PWA with support to comprehend the conveyed message. pWA were observed to use non-verbal supports such as keywords, head nods, pointing and gestures (see extracts 9.9 and 9.10) to facilitate the ability of the CP to comprehend the conveyed message. Further examples of the use of interpretability strategies particularly pointing and gestures were observed in dyad 2, dyad 7, dyad 12 and dyad 13.

#### 9.3.1.4 Accommodative emotional expression strategies

Accommodative adjustments using emotional expression strategies were sometimes observed as being used by the CPs in the form of verbal and nonverbal expressions of empathy, reassurance, and encouragement when the pWA appeared distressed or upset. Statements of acceptance, or humour were some of the ways through which such adjustments were made as observed from the data.

Extract 9.11 is an example from dyad 3, where Pavmani and Chaitali, who has aphasia, discuss how she feels about her family carers.

#### Extract 9.11 (Dyad 3)

|     |          |   |
|-----|----------|---|
| 129 | Pavmani  | magalu Channag nodalva?<br>The children don't look after well?  |
| 130 | Chaitali | ((looks at the PWA blankly))  |
| 131 | Pavmani  | yezma ((nods head)) Channag nodTare?<br>Husband looks after you well?   |
| 132 | Chaitali | ((nods head slowly to say 'yes'; sad facial expressions))   |
| 133 | Pavmani  | hm ((Indian head nod)) (.) parvag ilva ivaga yezmanru? ((nods head to say 'is that right'))<br>hm, no problems now with your husband?   |
| 134 | Chaitali | ((Indian head nod, smiles))   |
| 135 | Pavmani  | hm ((Indian head nod)) (0.2) moDalun Eketrovarike avaru? ((looks keenly at PWA with widened eyes and a half smile))<br>previously, he was troublesome, was he?                            |
| 136 | Chaitali | ((stares at PWA with a half-smile))   |
| 137 | Pavmani  | (hhh) ((looks at PWA and laughs))   |
| 138 | Chaitali | ((laughs and then looks away laughing; sits up straight and adjusts self))  |
| 139 | Pavmani  | vorika parvagilla vorika ((places hand on PWA's shoulder and prompts her to relax and sit back))<br>relax, don't worry relax  |
| 140 | Chaitali | ((slowly sits leaning back))  |
| 141 | Pavmani  | ((smiles)) (0.4) ninne dispensaryge ((nods head)) hogiTa? (.) nine (.) DivyaDak Torasak ((nods head)) hogiDa?<br>Yesterday you went to the dispensary is it? Went to show the 'DivyaDak'? |
| 142 | Chaitali | ha ha   |



Chaitali avoids responding to her husband's question about how the children care for her. She looks at him blankly and does not respond to his question (line 130). Pavmani then asks Chaitali about himself as a carer. Chaitali responds with a head nod but appears rather upset. The avoidant communication observed in line 130 may be due to a strained relationship between the PWA and her daughter. This strain is reflected in the interview with the researcher— "ahh. Aamaelae, InnonDu problem swalpa Psychiatric problem kuda iDae. Ahh Dodda magalu Ah iDu madiDae ahh" (*ahh. And then, there is another problem. A slight psychiatric problem is also there. Ahh our older daughter. Ahh. Ahh*). Pavmani then makes an attempt to lighten the situation through the use of humour as seen in lines 133 to 137. Chaitali observably demonstrates a positive shift in mood evidenced in lines 136 and 138 where she smiles and then breaks into laughter while smiling at her husband. Pavmani, then diverts the conversation to events of the previous day (line 141). In the turn following, Chaitali demonstrates an interest in interacting and responds using vocal means to support her head movements and convey her responses to the Pavmani's questions. Pavmani's use of affectionate humour is an example of accommodation related to emotional expression. The shared laughter had an observable positive impact on the interaction. Further examples of accommodative emotional expression strategies by way of providing emotional support and reassurance can be seen in dyad 1 (appendix 18, example transcript 4P7i, line 101, 117-125).

### **9.3.2 Constrained accommodation**

Across dyads, adjustment in the turns of pWA often reflected constraints imposed by the aphasia but also demonstrated evidence of attempts at accommodation. pWA were observed to attempt to produce verbal utterances although often unclear, attempt to repeat, attempt to comply with tasks initiated by the CP, to maintain the flow of conversation and increase the similarities to their interacting CPs conversational style. People with aphasia were observed to attempt to converge to the verbal style of the conversation partner but with compromised clarity and meaning. It was observed that the closer the verbal productions sounded to the desired output, the higher the likelihood that it was followed by a series of practice turns focussed on the phonetic clarity of the word or utterance (see table 9.3). When the attempted verbal output was not intelligible to the CP and was supported by gestures, pointing, and head movements for example, the tendency was to focus on the meaning being conveyed.

**Table 9.3 Table of examples**

| Dyad                | (Utterance) Nature of output  | Series of practice turns  | Focus on meaning with no verbal practice |
|---------------------|---|---------------------------|--|
| Dyad 9              | (aguTanu) PWA's attempted word-(tea tagutanu)<br><b>(I will take tea)</b>                     | Baseline 1, lines (34-38) | n/a                                      |
| Dyad 9              | (annu) PWA's attempted word-(annam)<br><b>(Food)</b>  | Lines (46-51)             | n/a                                      |
| Dyad 9              | (ta) phonemic repetition  | Baseline 2, lines (5-43)  | n/a                                      |
| Dyad 10             | muvaT aiDu, muvaT aiDu, (repetition of number sequences)<br><b>(thirty-five, thirty-five)</b> | Baseline 1, lines (10-25) | n/a                                      |
| Dyad 10             | ahh ((holds neck)) (0.3) vonDu vonDuuu<br><b>(Ahh one one)</b>                                | Baseline 1, (48-56)       |  |
| Dyad 1              | (uuuh) PWA attempts verbal output   | n/a                       | baseline 1, (lines 43-46)                |
| Dyad 2              | (JibejiCheJibejiji) PWA's unintelligible utterance  | n/a                       | Baseline 1, lines (11-18)                |
| Dyad 2 <sup>1</sup> | PWA's unintelligible utterance <sup>1</sup>   | n/a                       | Baseline 3, lines (1-5) <sup>1</sup>     |
| Dyad 10             | (unintelligible utterance)  | n/a                       | Baseline 1, lines (94-107)               |

<sup>1</sup>Presented below in extract 25)

Extract 9.12 is taken from dyad 14 comprising Carlos, who has aphasia, and his wife Patricia. In this extract, Patricia is asking her husband about various festivals and events that are happening in the weeks to follow. Carlos responds verbally with responses that were not clearly linked to the question even when prompted with a cue (line 139-140).

*Extract 9.12 (Dyad 14)*

|     |          |   |
|-----|----------|---|
| 139 | Patricia | Karnataka   |
| 140 | Carlos   | stars   |
| 141 | Patricia | Rajyotsava Day  |
| 142 | Carlos   | day *((nods head))  |
| 143 | Patricia | yaaa? Tomorrow. All Saints Day.   |
| 144 | Carlos   | ((nods head)) Ya ((reaches out for wives hand))   |
| 145 | Patricia | ya. Then. Then what you were planning?  |
| 146 | Carlos   | ((looks intently at the CP)) sss: ((extends hand with palm facing upwards and fingers spread out and partially curled inwards)) |
| 147 | Patricia | for today   |
| 148 | Carlos   | come on ((extends hand with palm facing upwards and fingers spread out and partially curled inwards))                           |
| 149 | Patricia | nothing ((shakes head))   |
| 150 | Carlos   | nothing ((looks away))  |

The PWA in this instance converges to the verbal style of communication of the CP but diverges from the content of the information exchange by using semantically unrelated words (lines 140-150). The divergence in this case appears to be a result of the constraints

posed by his aphasia. The PWA's adjustment is therefore considered constrained rather than as being nonaccommodative.

Extract 9.13 is taken from the second baseline evaluation of dyad 9 comprising Chandraraj, his wife Panbu and their granddaughter Panchi. Throughout this conversational interaction, Panchi and Panbu engage in a series of tests and practice tasks taking away the opportunity to engage in meaningful conversational exchange. In this extract, the granddaughter is practicing sound production with her grandfather to elicit the desired verbal production, which is 'sarasamma', the name of a person. This practice task is quite extensive, occurring across 34 turns of the conversation (lines 6-40) involving some turns taken by Panbu, to practice the same task with Chandraraj (see section 9.4.1 Nonaccommodation: Discourse management, Interpersonal Control Strategies where this extract is further discussed). Chandraraj complies with both the test and practice tasks initiated by both Panbu and Panchi throughout the conversation making up approximately 76% of the conversational content of this particular interaction. However, despite his attempts to converge to the verbal modality of the repetition task, his communication disorder constrained his ability to fully converge to the task of producing intelligible repetitions as demanded by the speaker. Chandraraj communicates by supporting his speech with pointing and gestures (lines 223 and 227), examples of interpretability strategies used to explicitly convey that he has difficulty speaking when they ask him to "speak" (lines 224 and 226).

*Extract 9.13 (Dyad 9)*

|       |            |  |
|-------|------------|--|
| 27    | Panchi     | ma   |
| 28    | Chandraraj | pa   |
| 29    | Panchi     | ma   |
| 30    | Chandraraj | ma   |
| 31    | Panchi     | Sarasamma (name of a person)   |
| 32    | Chandraraj | (mararamma)  |
| 33    | Panchi     | Sarasamma (name of a person)   |
| (...) |            |  |
| 223   | Chandraraj | [(unintelligible effortful speech) (( <i>nods head, Indian head nod, points to mouth</i> ; RI: difficulty in speech production ))] |
| 224   | Panbu      | Cheppu   |
| 225   | Chandraraj | ha   |
| 226   | Panbu      | Cheppu   |
| 227   | Chandraraj | ha (( <i>nods head, Indian head nod, points to mouth and neck</i> ; RI: difficulty in speech production ))                         |

In extract 9.14 (dyad 1) involving Chet and Payal, Chet attempts to use gestures in lines 36-41 but Payal is not successful in interpreting his nonverbal communication in this instance. Chet's use of interpretability strategies to convey his message appears to be constrained by his aphasia. Payal thus adjusts her communication further by simplifying her questions and verbalising her interpretation of his gestures (an example of accommodative discourse management strategies).

Extract 9.14 (Dyad 1)

|    |       |  |
|----|-------|--|
| 29 | Payal | ↑prayathna padu↓ ((pursuing tone of voice along with head nod appropriate for the context))<br>you must try!   |
| 30 | Chet  | ((looks up thinking; points to throat, shakes hand))   |
| 31 | Payal | [niinu mathadak] agala helthiya?<br>cannot do it is what you're saying?  |
| 32 | Chet  | (uhhh) ((widens eyes, nods head; gesture unclear))   |
| 33 | Payal | sari iduu (.) ((looks down and folds fingers and holds fist over the table; researcher's interpretation: 'stamping paper')) rubber stamp madthaidya alla?<br>okay this, you do the rubber stamps, yes? |
| 34 | Chet  | (hm) ((folds fingers and holds fist over the table; researcher's interpretation: 'stamping paper'; nods head in agreement))  |
| 35 | Payal | aDanu naavu yaranu madikotrane nivu >ethknodhohi madskond badThiThane?<<br>that, if we handover this to someone, will you do it and pick it up yourself?   |
| 36 | Chet  | (hm) ((folds fingers and holds fist over the table; researcher's interpretation: 'stamping paper'; nods head))   |
| 37 | Payal | aah?   |
| 38 | Chet  | ((folds fingers and holds fist over the table; researcher's interpretation: 'stamping paper'))   |
| 39 | Payal | rubber stamp aaah?<br>rubber stamp is it?  |
| 40 | Chet  | ((nods head in agreement))   |
| 41 | Payal | madisthiya? ((pauses and waits for PWA to respond while maintaining eye contact with him))<br>will you do it?  |

In extract 9.12 (lines 142 and 150), presented earlier, Carlos responded to his wife by using repetition as means to take a turn. This feature of his adjustment appears to be due to the aphasia. Similarly, extract 9.15 taken from the same dyad, Carlos responds to Patricia's question in line 68 with a part word repetition and a stereotypic utterance. His ability to accommodatively adjust to the Patricia's communication style and content is constrained by his communication disability. Constrained underaccommodation was not always perceived positively and appeared to risk communication breakdown, frustration, and misattributions. In extract 9.15, Carlos's constrained ability to adjust and accommodate to his wife may cause him to be perceived negatively or as being 'cognitively compromised'. This is apparent in turns across the interaction where Patricia uses a patronising style of talking, particularly evident in lines 17, 66 and 137. She also uses test-questions (lines 1, 5, 66, 131), prompts him to provide inappropriately basic information such as "What is-Is It afternoon?" (line 5); "And tomorrow is? First" (line 131). She also explicitly questions his awareness (lines 1 and 5) and memory (lines 17, 66 and 137).

Extract 9.15 (Dyad 14)

|       |          |   |
|-------|----------|---|
| 2     | Carlos   | s-s-s-sudden  |
| 3     | Patricia | No Time   |
| 4     | Carlos   | Time Time ((nods head))   |
| 5     | Patricia | Ya ((nods head)) (.) What is-Is It afternoon?                               |
| (...) |          |   |
| 15    | Patricia | yaa (.) Lunch (.) ya going to be 11 o'clock. (.) 11:45 now (.) quarter to ? |

|       |          |   |
|-------|----------|---|
| 16    | Carlos   | (( <i>nods head</i> )) twelve   |
| 17    | Patricia | twelve ah haa: you know that? Yaaa (( <i>nods head</i> )) ? £Okay (smiling happily) |
| 18    | Carlos   | (( <i>nods head, irritated facial expressions</i> ))                                |
| (...) |          |   |
| 66    | Carlos   | you saw? (0.2) You saw:? (( <i>nods head</i> ))                                     |
| 67    | Carlos   | (( <i>nods head</i> ))  |
| 68    | Patricia | in the morning I showed you know?   |
| 69    | Carlos   | Showe (( <i>nods head</i> )) ya ya (( <i>rotatory head movement</i> ))              |
| (...) |          |   |
| 131   | Patricia | And tomorrow is? First  |
| 132   | Carlos   | s-First(( <i>nods head</i> ))   |
| 133   | Patricia | Karnataka   |
| (...) |          |   |
| 137   | Patricia | All forgotten yesterday what I've told?   |
| 138   | Carlos   | (( <i>looks away, Appears frustrated</i> ))   |

It must be noted however, that the person with aphasia's ability to adjust in all of these examples, is constrained at the behavioural level, that is, when making the actual adjustment and is therefore impacted by the supports available. It could be suggested that with the right communication supports, increased adjustment could be facilitated.

**Summary:** People with aphasia made attempts to adjust their communication to support their ability to participate in turn and get their message across to their CPs. They were observed to employ interpretability strategies and discourse management strategies such as the use of pointing, gestures, and written keywords to support their ability to convey their message and to enhance meaningful conversational interaction. However, they were sometimes constrained in their ability to fully do so due to the nature of their aphasia. This constrained accommodation was demonstrated by way of converging to the verbal style of the CP (see extract 9.12, extract 9.15), to the task/ content of the interaction initiated by the CP (see extract 9.15). They were also observed to accommodate using interpretability strategies such as the use of gestures (see extract 9.14). Although the people with aphasia make attempts to accommodate to the CP, their constrained ability to do so can have negative consequences for the interaction and may result in them being evaluated negatively (see extract 9.15).

### 9.3.3 Reluctant accommodation

Reluctant accommodation typically occurs when people make accommodative adjustments in interaction because of extraneous factors such as social norms, respect and hierarchical structures and not primarily for the purpose of social affinity or optimising communication. In the conversations between family members adjustments in communication, whether facilitative or obstructive, typically had the purpose of enhancing communication, speech, or language. However, some instances of accommodation were observed where the purpose was perceived by the researcher to be associated with extraneous factors such as the presence of the researcher or recording equipment or an obligation to the primary caregiver. The interpretation is made by the researcher as a third-party listener and may have been intended differently by the speaker and perceived differently by the receiver. Instances of accommodative discourse management that was

perceived by the researcher as being reluctant accommodation are described with examples from the data.

In extract 9.16 taken from dyad 13, Preetham, having closed the previous topic which was a series of test questions directed at his wife Chetana, asks the researcher if the time is up for them to engage in the task of conversational interaction (line 125). The researcher informs them that they still have some time and invites them to continue having a chat for a few more minutes if they are willing. Preetham then once again resumes a new series of test questions (line 127). In this instance, Preetham appears to be avoiding communication owing to the difficulty he faces during the process. His continued interaction is evidenced to be solely for the purpose of the study specific task and is therefore evaluated as being reluctant accommodation. The presence of the researcher in this instance may have impacted the continued interaction.

*Extract 9.16 (Dyad 13)*

|      |            |   |
|------|------------|---|
| 123  | Preetham   | hmm (( <i>nods head and smiles in acknowledgement of what the PWA is saying</i> ))<br>aiTu<br>hmm okay.                             |
| 124  | Chetana    | hm (unintelligible mumble) (( <i>PWA appears to be finding it hard to continue the conversation naturally</i> ))                    |
| 125* | Preetham   | aiTa madam?<br>Done madam?  |
| 126  | Researcher | requests if they would be willing to continue for a few more minutes  |
| 127* | Preetham   | birTaday yavuDa Dina?<br>What day is the birthday?  |
| 128  | Chetana    | (Unintelligible effortful speech) (( <i>looks at the CP and the other family member present in the room, smiles, widens eyes</i> )) |

In extract 9.17 taken from dyad 6, Padam and his mother, Charvi are discussing what is bothering her and preventing her from participating in the interaction. Charvi had a rather depressed demeanour throughout her participation in the study. This was also evidenced in the interview (item 21, line 112) where the researcher asks about feelings of depression. Padam responds “*bejara bejara*” meaning, “*sadness, sadness*” while Charvi nods in agreement. Padam is observed to initiate each instance of communication which is in turn met with a “hm” from his mother while she looks away (lines 48-51). In this extract, Padam takes turns to maintain the flow of conversation by making attempts to elicit a response from Charvi. In lines 57 and 59, Padam uses a physical prompt by pressing his mother’s arm to elicit a response to his question in line 54 to where he asks her if her arm is okay. By initially demonstrating avoidance and then adjusting her communication to attend to her son’s question following repeated probing, Charvi demonstrates reluctant accommodation.

*Extract 9.17 (Dyad 6)*

|    |        |                            |
|----|--------|----------------------------|
| 48 | Padam  | Emmae<br>what?             |
| 49 | Charvi | hm (( <i>looks away</i> )) |
| 50 | Padam  | ah?<br>what?               |
| 51 | Charvi | hm (( <i>looks away</i> )) |

|    |        |   |
|----|--------|---|
| 52 | Padam  | eeda susTembleDa? (( <i>rubs eye</i> ))<br>is your arm fine?  |
| 53 | Charvi | (( <i>nods head possibly saying 'no'</i> ))   |
| 54 | Padam  | edi edi sayie iDi yemi leda susTembleDa (( <i>takes PWA's right arm and presses it near her wrist and taps on it three times</i> ))<br>this this, this arm, is it fine? |
| 55 | Charvi | hm (unintelligible speech)  |
| 56 | Padam  | (( <i>presses PWA's forearm and wrist</i> )) eh?<br>what  |
| 57 | Charvi | (unintelligible mumble) (( <i>moves right arm slightly while looking at it; researcher's interpretation: PWA is possibly indicating 'weakness in her arm'</i> ))        |
| 58 | Padam  | ah? (( <i>looks at the PWA's arm</i> ))<br>what   |
| 59 | Charvi | hm (( <i>holds it with the left hand pressing it lightly</i> ))   |
| 60 | Padam  | eh uTkondaDe injecSun isTe saripoTaDillae ah?<br>leave it like that, an injection will cure it  |
| 61 | Charvi | hm  |

*Communication partners* were observed to reluctantly accommodate by way of discourse management strategies such as initiating a new topic to maintain the flow of the interaction for the purpose of the task (see extract 9.16). *People with aphasia* were observed to reluctantly use discourse management strategies by means of turn taking to adjust their communication and maintain the flow of interaction with their CP possibly out of respect for them as family members and caregivers (extract 9.17). Reluctant accommodation often followed an instance of avoidant communication as seen in both of the examples illustrated. Further examples of reluctant accommodation in the communicative behaviour of the pWA were seen in dyad 3 wherein the pWA, demonstrates reluctant accommodation in approximately 64% (43 of 67) of her turns during the interaction and dyad 14.

#### 9.4 Obstructive strategies

People with aphasia and their CPs also demonstrated various types of obstructive adjustments during communication. The obstructive adjustments made by the interlocutors highlighted the differences in communication styles, hindered the flow of the interaction and reduced the meaningfulness of the interaction. The lack of adjustment in communicative behaviour when required was also seen as being obstructive to communication. The obstructive adjustments took various forms and were often dependent on the ability of the interlocutor to make the required adjustments to their communicative behaviour. Three categories of obstructive adjustments were observed and identified in the data— unavoidable nonaccommodation (see section 9.4.1), nonaccommodation (see section 9.4.2) and some instances of avoidant communication (see section 9.4.3).

##### 9.4.1 Unavoidable nonaccommodation

Across dyads, aphasia impacted the extent to which adjustment in the communication behaviour was possible and within the control of the PWA. pWA were observed to have difficulty adjusting their communication (leading to maintenance), difficulty in complying with tasks initiated by the CP, to maintain the flow of conversation and increase the

similarities to their interacting CPs conversational style. Unavoidable nonaccommodation was common across extracts and presented as the first type of nonaccommodation given its pervasive presence in the data.

#### 9.4.1.1 Unavoidable nonaccommodation—maintenance and divergence

During the conversational interactions, people with aphasia were often observed to not use approximation strategies such as convergence to accommodate to their CP. In these instances, the pWA were unable to adjust their communicative behaviour, resulting in unavoidable hindering of effective communication and /or increased the differences between them and their CPs.

Extract 9.18 is taken from dyad 5 involving Chirag who has acute global aphasia, his brother-in-law Pavan and his brother Pranith. In this extract, Chirag is unable to adjust his communication style owing to his severe aphasia. The conversation is therefore one sided with little to no exchange of information occurring (lines 10 to 23). All of Chirag’s responses are limited to a ‘hm’ with slight movement of his head (line 11) and are not interpretable in the context. As the lack of adjustment made by Chirag to accommodate the needs of Pavan and Pranith is directly a result of the impact of the aphasia, it is considered as unavoidable nonaccommodation.

##### Extract 9.18 (Dyad 5)

|    |        |   |
|----|--------|---|
| 10 | Pavan  | are you feeling better? ((holds PWA’s arm, nods head))                          |
| 11 | Chirag | (.) hm ((nods head))  |
| 12 | Pavan  | (.hhh) ((head nod towards one side)) do you want to meet anyone?                |
| 13 | Chirag | hm  |
| 14 | Pavan  | hm? Whom do you want to meet?   |
| 15 | Pavan  | (0.3) you want to meet (sharon. Name of someone. Unclear)? ((holds PWA’s arm )) |
| 16 | Chirag | ((moves leg around slightly)) hm  |
| 17 | Pavan  | hm? ((holds PWA’s arm ))  |
| 18 | Chirag | ((moves leg around slightly)) hm  |
| 19 | Pavan  | hm? ((holds PWA’s arm ))  |
| 20 | Chirag | ((moves leg around slightly))   |
| 21 | Pavan  | are you aware you are in Bangalore? ((holds PWA’s arm))                         |
| 22 | Chirag | hm  |
| 23 | Pavan  | hm? ((holds PWA’s arm ))  |

In some participants with aphasia, divergence from the style or modality or topic of communication was observed.

In extract 9.19, taken from dyad 4, Charuhaas, his wife Padmini and his daughter Pritika are engaged in conversation. Charuhaas had difficulty with comprehension and also presented with pragmatic language difficulties.

##### Extract 9.19 (Dyad 4)

|    |           |  |
|----|-----------|--|
| 26 | Charuhaas | (0.4) This particular city   |
| 27 | Padmnini  | ((nods head))  |
| 28 | Pritika   | no no. not city. aapke Gar me kon kon reheTe hae? (.) aapke family mae kon kon hae? ((curls fingers with left hand partially raised, elbow resting on the table; researcher’s interpretation: gesture indicating ‘who’)) |



|    |           |   |
|----|-----------|---|
|    |           | no no. not city. Who all live in your <u>house</u> ? (.) who all are in your <u>family</u> ?  |
| 29 | Charuhaas | family mae To, I feel absence of (0.3) something (( <i>nods head</i> )) that misses me too.<br><u>In the family, I feel the absence of something that misses me too</u> |
| 30 | Pritika   | ha (0.2) ye ni but<br>yes (0.2) not this but  |
| 31 | Charuhaas | ha?<br><u>What?</u>   |
| 32 | Pritika   | who all (.) people (.) stay with <u>you</u> (.) in your <u>family</u>   |

In this extract Charuhaas diverges from the topic of discussion, which is about whom he lives with, to a related topic of the city where he lives (lines 26 and 29). When ‘corrected’, Charuhaas adjusts his communication to using the keyword ‘family’ as context (line 29), however, he still does not fulfill the task requested of him, or the questions posed to him in a manner which satisfies his daughter. This pattern is characteristic of his communication disorder providing him with little control over his ability to adjust his communication to that of the interlocutors. Charuhaas’s divergent adjustments in this instance are thus considered unavoidable nonaccommodation.

In extract 9.20 taken from dyad 2, Paarth attempts to engage Chandrak in a repetition task (lines 97-102).

*Extract 9.20 (Dyad 2)*

|     |          |   |
|-----|----------|---|
| 97  | Paarth   | aaru (( <i>points out the numeric keywords on the sheets</i> ))<br><u>six</u>         |
| 98  | Chandrak | ah (( <i>points to written numbers</i> ))   |
| 99  | Paarth   | aaru anu (( <i>points out the numeric keywords on the sheets</i> ))<br><u>say six</u> |
| 100 | Chandrak | ah (( <i>points to written numbers</i> ))   |
| 101 | Paarth   | aaru (( <i>points out the numeric keywords on the sheets</i> ))<br><u>six</u>         |
| 102 | Chandrak | aaru (( <i>points to written numbers</i> ))<br><u>six</u>                             |

Paarth uses written keywords to support Chandrak’s ability to carry out the task (an example of accommodative interpretability strategies). However, Chandrak appears to engage with the written numerals by pointing to the number called out by Paarth, instead of repeating them out loud (see lines 97-100) instructed by him. In doing so, Chandrak diverges in this communication style. In line 102 however, Chandrak accommodates to Paarth by engaging in the repetition—he attends to the task and repeats the number called out, thereby eventually converging to the task.

**9.4.1.2 Unavoidable nonaccommodation—discourse management strategies**

During interaction, people with aphasia were observed to demonstrate communicative behaviour that hindered the flow of conversation. This disruption was observed in the form of inappropriate repetition of the speaker’s message and not responding with relevant content to the message conveyed in the immediately preceding turn of the speaker.

Extract 9.21 is taken from Dyad 14 comprising Carlos and Patricia. Carlos has difficulty in responding to the wife's questions as is evidenced in majority of his turns. In lines 149-160, he repeats the one-word utterances produced by Patricia. While Carlos's verbal repetition may be seen as convergence to the spoken modality, it adds little in terms of the transactional aspects. This nonaccommodative adjustment is caused due to the nature of the aphasia and is hence considered to be unavoidable.

*Extract 9.21 (Dyad 14)*

|     |          |   |
|-----|----------|---|
| 143 | Patricia | yaaa? Tomorrow. All Saints Day.   |
| 144 | Carlos   | ((nods head)) Ya ((reaches out for wife's hand))  |
| 145 | Patricia | ya. Then. Then what you were planning?  |
| 146 | Carlos   | ((looks intently at the CP)) sss: ((extends hand with palm facing upwards and fingers spread out and partially curled inwards)) |
| 147 | Patricia | for today   |
| 148 | Carlos   | come on ((extends hand with palm facing upwards and fingers spread out and partially curled inwards))                           |
| 149 | Patricia | nothing ((shakes head))   |
| 150 | Carlos   | nothing ((looks away))  |
| 151 | Patricia | nothing?  |
| 152 | Carlos   | nothing ((looks away))  |
| 153 | Patricia | eating?   |
| 154 | Carlos   | eating  |
| 155 | Patricia | sleeping?   |
| 156 | Carlos   | sleeping  |
| 157 | Patricia | going down?   |
| 158 | Carlos   | gang  |
| 159 | Patricia | that's all?   |
| 160 | Carlos   | that's all.   |

In extract 9.22 taken from dyad 2, which forms part of the conversation between Paarth and his father seen also in extract 9.22, a test task is evident. Paarth asks his father to name the number he has written on the sheet of paper (line 85). Chandrak responds using unintelligible speech and points to the written number. However, he does not respond to the task in the manner (naming/ reading aloud) that the task demands, owing to his aphasia. Chandrak's responses (see lines 86, 88, 90 and 92) are therefore considered to be unavoidably nonaccommodative. It must be noted that in this extract, Paarth's turns are nonaccommodative on two levels—interpersonal control and discourse management. Chandrak however, partially accommodates to his son by taking turns to participate in the interaction, and by using accommodative interpretability strategies of pointing to the written numbers to indicate what he is requested to say out loud.

*Extract 9.22 (Dyad 2)*

|    |          |   |
|----|----------|---|
| 85 | Paarth   | iDu yeStu? ((points out the numeric keywords on the sheets))<br>how much is this?           |
| 86 | Chandrak | (unintelligible utterance) ((points to written numbers))                                    |
| 87 | Paarth   | iDu yeStu iDu? ((points out the numeric keywords on the sheets))<br>this, how much is this? |
| 88 | Chandrak | ((points to written numbers))   |
| 89 | Paarth   | iDu yeStu? ((points out the numeric keywords on the sheets))<br>how much is this?           |

|    |          |  |
|----|----------|--|
| 90 | Chandrak | (unintelligible utterance) (( <i>points to written numbers</i> ))  |
| 91 | Paarth   | kannada Dalli helu, joraagi (( <i>points to written numbers on the sheets and looks at the PWA</i> ))<br>say it in Kannada, loudly |
| 92 | Chandrak | (unintelligible utterance) (( <i>points to written numbers</i> ))  |

People with aphasia were observed to be unavoidably nonaccommodative in their behaviour in terms of maintenance (e.g., extract 9.18), divergence from the ongoing topic of discussion (e.g., extract 9.19) and from the verbal style of communication (e.g., extract 9.20). In some participants, repetition of words as a feature of the aphasia, was also observed (e.g., extract 9.21). In all of these examples, the person with aphasia's ability to adjust is limited at the behavioural level unlike unintentional underaccommodation (Hamilton, 2010) documented in people with some types of psychotic disorders such as Schizophrenia and neurodegenerative conditions such as Alzheimer's Disease. Unavoidable nonaccommodation is also impacted by availability of communication supports and with the right communication supports some adjustment may be facilitated – a feature which is explored in the conversations after CPT (Chapter 10).

#### 9.4.2 Nonaccommodation

Both pWA and CPs were observed to not adjust their communicative behaviour thereby maintaining the differences in their style of communication (maintenance); adjust their communication behaviours thereby increasing the differences in their communication styles (divergence); reduce the meaningfulness of the conversational interaction (discourse management strategies, interpretability strategies) and as a result impact the overall communicative experience. The nature of nonaccommodative adjustment and the strategies used to adjust one's conversational behaviour as observed by the researcher are described below with illustrative examples.

One of the most pervasive features of the conversations across all dyads was the use of test questions by way of discourse management and interpersonal control in the turns of the CP. This was often met by compliance-convergence in the turns of the pWA. Request-Response-Evaluation sequences (RREs) occur when the speaker or therapist makes a request for an action (e.g., test-question, test or practice task) and the listener or the clients respond (Simmons-Mackie, Elman, Holland and colleagues (2007). The response is then evaluated by the speaker. These patterns have been observed and documented in interactions with people with aphasia, which sometimes sees error corrections and repetitions as expected from such discourse (Beeke at al., 2013). An overview of the nature of such RREs, the inferred purpose and the dyads that presented with these patterns as observed in this study are provided in table 9.4.

**Table 9.4 Overview of test-questions, training and practice tasks across dyads 1-14.**

| Type of Response Request Evaluation Sequences (RRES)      | Function or skill targeted*         | Displayed in Dyad    |
|---|-------------------------------------|----------------------|
| Test questions  | Speech, cognition (memory)          | 1-14                 |
| Test tasks (identification of words, numbers)             | Cognition                           | 2, 3, 4              |
| Test tasks (writing on dictation, signing initials)       | Cognition, fine motor skill—writing | 2, 4                 |
| Test tasks (song recollection)                            | Memory, ability to sing             | 3, 4, 10             |
| Training / practice Tasks (phonemic repetition)           | Speech                              | 3, 9, 13             |
| Training/ practice Tasks (sentence and word production)   | Speech                              | 8, 9, 10, 12, 13, 14 |
| Training/ Practice Tasks (repetition of number sequences) | Speech, cognition                   | 10                   |
| Training sequences (use of gestures)                      | Communication                       | 3                    |

\*On some occasions, test/practice tasks were observed to be used as conversational fillers or as forged interactional content (e.g., dyads, 3 and 14- see 9.4.2.2 below).

In sections 9.4.2.2 and 9.4.2.3 instances of the use of test-questions, training and practice tasks are described. For example, extract 9.32 taken from dyad 2 illustrates how Chandrak complies with most of the ‘test-tasks’. This is also seen in extract 9.26 taken from dyad 9. The acts of ‘testing’ and ‘training’ suggests that the CPs perceive the pWA to be less competent or less able, and demonstrate behaviour that is overaccommodative in that, the speaker (CP) is attempting to improve the skill of the listener (PWA). Such ‘testing’ and ‘training’ behaviours have implicit in them a sense that the receiver (PWA in these examples) is dependent on the speaker (CP). The speaker’s adjustment in communicative behaviour is therefore considered to be ‘dependency overaccommodation’<sup>2</sup>. Tomsha and Hernandez (2010) suggest that overaccommodation of this nature can result in the listener feeling less equal or inferior to interlocutor. The PWA in each dyad, who is largely dependent on their respective CP for their communication needs, therefore, assumes a ‘lower-status role’ (*ibid*, p.478) to that of the typically communicating partner which may prompt them to comply with the tasks introduced by the CP. On some occasions however, the use of such RRE sequences appeared to be purposed for creating interactional content as suggested in extract 9.29 (dyad 3) and extract 9.30 (dyad 14).

#### **9.4.2.1 Nonaccommodation—maintenance and divergence**

Communication partners were observed to maintain their communication style without accommodating the needs of the other. Maintenance was particularly noted with regards to maintaining the verbal modality of communication despite the pWA being unable to comprehend or respond to appropriately, failing to support the communication with nonverbal supports such as gestures, keywords and pointing. Instances of nonaccommodative maintenance in the form of adhering to the verbal style without accommodating to the communication style and needs of the pWA was seen across all

<sup>2</sup> *Dependency accommodation* occurs when the speaker’s communicative behaviour portrays the receiver in a lower, dependent position to an extent that the receiver accepts the speaker’s dominant communicative behaviour (Tomsha and Hernandez, 2010).

dyads participating in the study. Dyad 3, dyad 7 and dyad 8 however, demonstrated relatively fewer instances of maintenance. Dyad 8 reported having received some sessions of speech therapy prior to participation in the session which may have been a factor.

In extract 9.23 (extended from extract 9.8), Chandrak and his son Paarth, are engaged in conversation. In this extract, Paarth asks the father about whether he might be making a telephonic call to a named family member and enquires about his difficulty with talking on the phone (line 19).

*Extract 9.23 (Dyad 2)*

|    |          |   |
|----|----------|---|
| 17 | Paarth   | fone madThiya?<br>Are you going to call?  |
| 18 | Chandrak | ((closes bottle)) (unintelligible utterance)  |
| 19 | Paarth   | fone, madTiya? munniyappanige fone madTiya ivaga alla?<br>Are you going to call? You call Mukesh uncle yeah?  |
| 20 | Chandrak | (Unintelligible utterance) ((wipes face with left hand ))   |
| 21 | Paarth   | pfone maTadak agalla ((shakes head))?<br>You aren't able to talk on the phone?  |
| 22 | Chandrak | (Unintelligible utterance) ((shakes right hand first inward and then outward, gesture unclear ))  |
| 23 | Paarth   | HavuDa?<br>Is that right?   |
| 24 | Paarth   | ivaga belige navu ooru inDa banDava ((flaps right hand rotating wrist from right to left)) alva? (.) Bike alli? (.) nimmage yenaDru ansaiTa? yenaDru kaSta aiTa?<br>Now in the morning we came from the village yeah? By bike? Did you feel anything about it? Did you feel any difficulty? |
| 25 | Chandrak | (Unintelligible utterance) ((turns to look at CP))  |
| 26 | Paarth   | kal baike la vasTu anu paThine<br>I am asking about in relation to the bike   |

Chandrak, owing to his communication disability, his response to Paarth is unintelligible (lines 18, 20 and 25) and without any communication support made available to him, he is unable to respond to the question directed to him (see the discussion on unavoidable nonaccommodation in section 9.4.1). Paarth however, maintains his preferred verbal modality throughout, which prevents Chandrak from participating meaningfully in the conversational interaction. Paarth does, to some extent, adjust his style of questioning by simplifying and breaking it down into smaller questions (discussed earlier as an example of accommodative discourse management) but makes no change to the largely preferred medium of verbal style of communication in all the turns in the extract. The lack of adjustment in Paarth's communication behaviour is nonaccommodative—maintenance.

In extract 9.24 from Dyad 11, Panisthi is discussing going home to the village and wonders if her husband Coshel will remain at home to attend therapy. In line 17, Panisthi asks her husband if he will stay to which he responds with a 'hm' and a head nod in line 18. From line 19, it is clear that Panisthi has not understood her husband's response and requests him to be clearer. Panisthi's communicative behaviour in the turns illustrated is considered nonaccommodative in terms of maintenance of the preferred verbal modality. In all these turns depicted, Coshel also maintains his modality and style of communication, however

as the absence of adjustments in Coshel's turn are associated with his aphasia, it is considered as being unavoidable maintenance.

*Extract 9.24 (Dyad 11)*

|    |          |  |
|----|----------|--|
| 17 | Panisthi | irTiya?<br>Will it stay?   |
| 18 | Coshel   | hm ((nods head in acknowledgement ))   |
| 19 | Panisthi | hm ((closes eyes and shakes head))Sari helna nanag arTa ?<br>tell me the answers correctly |
| 20 | Coshel   | hm ((nods head in acknowledgement ))   |
| 21 | Panisthi | huh? ((Indian head nod))   |
| 22 | Coshel   | hm ((nods head in acknowledgement ))   |
| 17 | Panisthi | irTiya?<br>Will it stay?   |
| 18 | Coshel   | hm ((nods head in acknowledgement ))   |
| 19 | Panisthi | hm ((closes eyes and shakes head))Sari helna nanag arTa ?<br>tell me the answers correctly |
| 20 | Coshel   | hm ((nods head in acknowledgement ))   |
| 21 | Panisthi | huh? ((Indian head nod))   |
| 22 | Coshel   | hm ((nods head in acknowledgement ))   |

Extract 9.25 taken from the first baseline of dyad 4, illustrates how Charuhaas, his daughter Pritika and wife Padmini, demonstrate divergence from each other's language preferences. Charuhaas appears to have a preference to communicate in English medium as is evidenced in most of his interactional turns across baselines. In this extract he explicitly indicates his desire to communicate in English (line 21) but faces opposition from his daughter in her response (line 22). Pritika speaks both Hindi and English, but her mother Padmini is only fluent in Hindi. This prompts them to use Hindi as the medium of communication. This is evidenced in the interview (appendix 17, example transcript RYhmZWLA, parra 39) where Padmini suggests that the researcher poses her questions in English, however owing to their higher proficiency in Hindi, they would respond in Hindi. In lines 15, 17 and 18, Charuhaas diverges from the choice of Hindi, the language predominantly used (L1) by both his wife and daughter. His tendency to switch to English maybe a result of his aphasia although conclusive assessment results were not available. Charuhaas's professional career as an English professor is an attribute, he holds in high prestige which may also influence his preference for English over his mother tongue- Hindi.

*Extract 9.25 (Dyad 4)*

|    |           |  |
|----|-----------|--|
| 14 | Pritika   | bangalore mae [aapko Gar] me reheTe hae na?<br>in Bangalore, you live in [your house] yeah?  |
| 15 | Charuhaas | [(iDar)] (0.3) ha yes yes<br>Here. Yes, yes, yes,  |
| 16 | Pritika   | To aapke saTh <u>Gar</u> mae kon kon reheTa aap un logo ka naam baTa sakTe hae?<br>Then, who all live with you in your <u>house</u> , can you name all those people? |
| 17 | Charuhaas | ha ha<br>yes yes   |

|    |           |   |
|----|-----------|---|
| 18 | Pritika   | kon kon se log reheTe hae?<br>Who all are the people who live with  |
| 19 | Charuhaas | just see (0.8)  |
| 20 | Pritika   | Bangalore mae aapke saTh Gar mae kon kon reheTe hae? ((curls fingers with left hand partially raised, elbow resting on the table; researcher's interpretation: gesture indicating 'who')) aapke Gar mae kon kon hae? who all stay with you in your house in Bangalore? ((curls fingers with left hand partially raised, elbow resting on the table; researchers interpretation: gesture indicating 'who')) Who all are there in your house? |
| 21 | Charuhaas | (0.2) English mae bolega na?<br>Can say it in English, no?  |
| 22 | Pritika   | hinDi mae hi baTa Deeje<br>say it in Hindi itself   |
| 23 | Padmini   | haa kuCh hi engliSh mae baTaie engliSh mae baTaie<br>yeah, anything. Say it in English, say it in English   |
| 24 | Pritika   | engliSh mae<br>In English   |
| 25 | Padmini   | baTaie. engliSh ma baTaie<br>say! Say it in English!  |

#### 9.4.2.2 Nonaccommodation—discourse management and interpretability strategies

Communication partners used discourse management strategies in the process of deviating from meaningful conversational interaction to focus on task-based interaction. The specific behaviours which were used in this regard included the use of test questions, test tasks, practice tasks, not supporting the participation of the interlocutor. People with aphasia were observed to use nonaccommodative discourse management strategies in the form of not engaging with topics or content initiated by the interlocutor.

In extract 9.26 taken from dyad 9, the wife Panbu initiates a series of test tasks and practice tasks with her husband Chandraraj in a possible attempt to create interactional content. The intention maybe to avoid conversation that might potentially encounter communication breakdown and highlight her husband's communication disability.

#### Extract 9.26 (Dyad 9)

|    |            |   |
|----|------------|---|
| 21 | Panbu      | Dindi pindi                                     |
| 22 | Chandraraj | Dindi pindi                                     |
| 23 | Panbu      | Dindi pindi                                     |
| 24 | Chandraraj | Panama?   |
| 25 | Panbu      | Podama<br>Shall we go?                          |
| 26 | Chandraraj | (unintelligible effortful repetition)           |
| 27 | Panbu      | ma uriki paDamu?<br>Shall we go to our village? |
| 28 | Chandraraj | (unintelligible effortful repetition)           |

Chandraraj complies with the task initially but in line 24, appears to deviate from it. The word produced by Chandraraj in line 24 appears to be him suggesting they go home, the correct term being 'poDama' as repeated and modelled by Panbu in line 25. Chandraraj however, owing to the aphasia, repeats Panbu's production incorrectly which prompts her

to continue with the practice task of verbal repetition. In the turns (lines 21-28) shown in the extract, Panbu engages in nonaccommodation achieved using discourse management strategies such as the use of test-questions and corrective or practice task sequences. While Chandraraj initially complies with the task (21-23) he diverges, from the test-task sequence in line 24 where he does not continue to engage with the repetitive task and instead suggests that they go home. Chandraraj's communicative adjustment in this instance is nonaccommodative— both divergent and in terms of discourse management. In lines 26 and 28, the PWA's lack of adequate adjustment is due to his aphasia and is therefore considered unavoidable nonaccommodation.

In extract 9.27, Pritika asks her father to tell her whom all he lives with at home. In each turn of this extract, Pritika demonstrates nonaccommodative strategies in terms of discourse management— test questions (lines 36, 38) and not supporting the participation of her father (lines 36-42). Her maintenance of the verbal style of communication is also nonaccommodative to Charuhaas in terms of the interpretability of the messages she conveys in each of her turns.

*Extract 9.27 (Dyad 4)*

|    |           |   |
|----|-----------|---|
| 36 | Pritika   | with (.) whom you stay at home  |
| 37 | Charuhaas | hm (( <i>nods head in acknowledgement of what the CP is saying</i> ))   |
| 38 | Pritika   | name them name them name them (.) your sons, your daughter in law, your granddaughters, you should name them  |
| 39 | Charuhaas | yes yes (( <i>shakes head in acknowledgement of what the CP is saying</i> ))<br>(.) ahm I am very much obliged (.)  |
| 40 | Pritika   | ( <i>clicks tongue indicating displeasure</i> ) (( <i>throws palms up in the air and buries head in both hands, facial expressions explicitly indicate frustration</i> )) |
| 41 | Charuhaas | [to the people]   |
| 42 | Pritika   | ((( <i>buries head in both hands, facial expressions explicitly indicate frustration</i> ))) aapke Gar mae]<br>In your house  |

Pritika's nonaccommodation in terms of interpretability prevents Charuhaas from responding with relevant content which causes some frustration for Pritika herself, evident from her responses (lines 38-41). Her authoritative style of talking evidenced in line 38 is also nonaccommodative in nature. In lines 40 and 42, she displays her frustration through facial expressions and gestures. Her display of frustration is obstructive to the interaction and is considered nonaccommodative in terms of emotional expression. In this extract, the frustrations resulting from the communication difficulties that Pritika faces during interaction with her father are evident. The difficulties she faces in interacting with her father due to his aphasia are evident in all three baseline interactions. It could be suggested that these experiences prompt her to interrupt her father's turns with repeated questions or corrections, whenever she suspects he is diverging from the ongoing topic. This example therefore is also evidence of how a negative communicative experience influences further interaction.

In extract 9.28, taken from dyad 2, the son Paarth asks his father Chandrak what his name is. The son in these turns (lines 1-5) uses a series of test questions to make for



conversational content. The father responds and attempts to do so verbally but is unable to produce a clear or interpretable response (discussed in section 9.4.2). It is unclear if he is responding with his name or not.

*Extract 9.28 (Dyad 2)*

|   |          |   |
|---|----------|---|
| 1 | Paarth   | per emme? ((points to PWA with his pen))<br>name?                               |
| 2 | Chandrak | (unintelligible utterance) ((picks up pen and holds it to the sheet of paper))  |
| 3 | Paarth   | nin per emme? ((points to PWA with finger))<br>what is your name                |
| 4 | Chandrak | (unintelligible utterance) ((looks at the CP, holds pen to the sheet of paper)) |
| 5 | Paarth   | bariyo ille ((points to sheets of paper placed in front of them))<br>write here |

In this interaction, the son's communicative behaviour may be perceived as being nonaccommodative in terms of test questions (lines 1 and 3), not supporting his father's response (lines 1-4) and test-tasks (line 5). Chandrak's responses may also be perceived by his son as being nonaccommodative. However, in consideration of his abilities and the constraints imposed by the aphasia, Chandrak's lack of adjustment in this instance would be considered as unavoidable nonaccommodation. In this example, we once again see a shift to the use of non-verbal supports (line 4) when the verbal output is unintelligible.

**Converging in the face of nonaccommodation**

Having considered examples of convergence and nonaccommodation present in the conversations from this study, as well as having discussed the recurring observation of RREs across the participants, two examples wherein convergence occurred in the context of nonaccommodation are now discussed. This pattern is however, also observed in extract 9.26 taken from dyad 9 extract 9.32 taken from dyad 2

In extract 9.29, Pavmani has just admitted to his wife that he is feeling sleepy and suggests that they do a bit more (referring to participation in the ongoing session) and then go home. When Chaitali does not respond to his suggestion and looks away instead, Pavmani takes a sheet of paper that is lying in front of them and writes down some keywords (line 7). After a silence, he asks Chaitali to point out which in the list of written options is her hometown.

*Extract 9.29 (Dyad 3)*

|    |          |   |
|----|----------|---|
| 7  | Pavmani  | ((writes keywords)) (0.3) yavuDa iDaralli nimma ooru? ((points to listed keywords provided as response options))<br>From these, which one is our hometown?  |
| 8  | Chaitali | ah ah ((slides index finger over keywords, points to specific keyword ))  |
| 9  | Pavmani  | nim oora? ((points to PWA and nods head))<br>your hometown is it?   |
| 10 | Chaitali | ((looks at PWA and then withdraws finger as he marks it ))  |
| 11 | Pavmani  | ah ((marks the PWAs chosen response keyword))   |
| 12 | Pavmani  | ((writes keywords down in preparation for the next question)) (1.12) ivuruDu yava ooru? ((points to the list of family members names already written down))<br>This one's, which is the hometown? |
| 13 | Chaitali | ah ((slides finger across the keywords till she identifies her response option ))   |

The husband in this instance, uses a test question perhaps in an attempt to create an opportunity for interaction. Use of a test question by a family member typically undermines the competence of the PWA (Bauer & Kulke, 2004), and deviates from true transaction in conversation. In CAT such a turn could be considered as an example of nonaccommodative interpersonal control strategies. Chaitali, however, complies with the act of test-questioning and responds by vocalising and pointing to one of the written options provided. In lines 9 and 11 the husband verifies his wife's responses using the written keywords along with pointing to support the questions he poses while also using it as a way for her to respond. In line 12, Pavmani once again employs a test question and uses the written keywords to support his interaction with Chaitali. Chaitali incorporates the keywords into the conversation by using them as a medium of responding to the Pavmani's questions. He follows Chaitali's lead and also incorporates the use of keywords to support the interaction. Pavmani in these instances, converges to the non-verbal medium of communication typically used by his wife. The social value of the Pavmani's convergence in this case is downwards as spoken discourse would be preferred over written discourse among the group of neurologically healthy people to which he belongs. Chaitali converges both to the content of the interaction initiated by Pavmani as well as to the medium of communication, i.e., the use of keywords along with verbal/vocal output to reduce the differences and maintain the flow of conversation. By engaging with the written keywords, she also ensured her responses were understood by Pavmani

A conversation between Carlos, who has aphasia, and his wife Patricia is illustrated in extract 9.30 (dyad 14). They participated in one baseline conversation from which extract 9.4 is taken. In lines 98 to 107, Patricia asks Carlos various questions on current events and festivals that they have already discussed (line 100). Test questions appear to be used to create conversational content in a similar manner to dyad 3 (shown in extract 9.2). Convergence from Carlos in this instance, occurs in the context of non-accommodative discourse management strategies used by Patricia.

*Extract 9.30 (Dyad 14)*

|     |          |   |
|-----|----------|---|
| 98  | Patricia | then? no which month is this you know? From tomorrow  |
| 99  | Carlos   | kera-k-k-k-kenny (( <i>points towards the CP with index finger</i> ))   |
| 100 | Patricia | no (( <i>shakes head</i> )), Yesterday I Told knoww?  |
| 101 | Carlos   | k-kera-[Keny (( <i>taps PWAs arm</i> )) Kenny]  |
| 102 | Patricia | [what all we have to do], (( <i>shakes head</i> )) go go to the (0.2) Cemetery  |
| 103 | Carlos   | uh yay ya y (( <i>nods head</i> ))  |
| 104 | Patricia | uh what which month? Tomorrow?  |
| 105 | Carlos   | uh yay ya y   |
| 106 | Patricia | November  |
| 107 | Carlos   | November (( <i>extends arm forwards taps PWAs arm, then turns hand with palm facing upward and fingers partially curled inward</i> )) |

Carlos attempts to respond to these questions verbally although the meaningfulness of his responses is compromised in majority of his turns. He converges to the verbal modality of communication used by Patricia. This convergence does not extend to the syntactic structure, or the rate of speech owing to the nature of his aphasia.

#### 9.4.2.3 Nonaccommodation—interpersonal control and emotional expression.

*Conversation Partners* were observed to exert some interpersonal control over the pWA by deviating from their roles as family members and conversation partners and assuming authoritative roles such as that of a tester, trainer, or therapist for the pWA. The CPs demonstrated a tendency to undermine the competence of the pWA, made evident by using test questions, training and practice tasks, patronising tone of voice, authoritative style in communication, talking over or at the pWA, deciding what topic to choose and when to close the topic and the conversation.

Extract 9.31 is taken from the first baseline of Dyad 13. In this conversational interaction, the husband Preetham takes on the role as a tester to tests his wife Chetana’s memory of what she had for breakfast. The question is also asked as an open question with no support provided initially (an example of nonaccommodation—discourse management). In Line 33, he rephrases his question providing her with the desired ‘answer’ to his question. In this interaction, Chetana acquiesces to comply, but has difficulty producing the desired response owing to her aphasia (unavoidable nonaccommodation). Preetham, by means of asking test questions and taking the lead on the conversation, uses interpersonal control strategies that appear to undermine Chetana’s competence and role in the relationship. The adjustments to communicative behaviour made by Preetham are therefore considered as being nonaccommodative in terms of interpersonal control.

##### Extract 9.31 (Dyad 13)

|    |          |  |
|----|----------|--|
| 27 | Preetham | hm hm hm manjalu naSta yaen madiDa?<br>What did Manjalu make for breakfast                 |
| 28 | Chetana  | (unintelligible effortful speech) (( <i>Indian head nod</i> ))                             |
| 29 | Preetham | Ëyenu yenu madiDa naSta? ((head nod indicates ‘What’))<br>what did you have for breakfast? |
| 30 | Chetana  | (unintelligible effortful speech) (( <i>Indian head nod</i> ))                             |
| 31 | Preetham | uh? (( <i>facial expressions indicate ‘what’</i> ))<br>what?                               |
| 32 | Chetana  | (unintelligible effortful speech) (( <i>Indian head nod</i> ))                             |
| 33 | Preetham | upit madiDa? (( <i>nods head</i> ))<br>did you have upitu (South Indian breakfast item)?   |
| 34 | Chetana  | (unintelligible effortful speech) (( <i>Indian head nod</i> ))                             |
| 35 | Preetham | hmm (( <i>nods head</i> )) (0.2) aiTu<br>hmm alright                                       |

Extract 9.32 is taken from Dyad 2, baseline 3. The conversation partner, Paarth, appears to be testing his father Chandrak in terms of his ‘ability to write’.

##### Extract 9.32 (Dyad 2)

|    |          |  |
|----|----------|--|
| 7  | Paarth   | (( <i>tilts head to look at what the PWA is writing</i> )) hmm (.) haTu bari haTu<br>(( <i>points to PWA with finger and to sheets of paper</i> ))<br>hmm, write ten rupees. Ten |
| 8  | Chandrak | (unintelligible utterance) (( <i>looks at the CP, holds pen to the sheet of paper</i> ))   |
| 9  | Paarth   | haTu rupai (( <i>points to sheets of paper placed in front of them</i> ))<br>ten rupees  |
| 10 | Chandrak | (0.5) (( <i>writes keywords</i> )) (unintelligible utterance)  |
| 11 | Paarth   | haTu rupai (( <i>tilts head to look at what the PWA is writing</i> ))  |

|    |          |  |
|----|----------|--|
|    |          | ten rupees   |
| 12 | Chandrak | (0.3) (haTu rupaii) ((writes keywords))<br>ten rupees  |
| 13 | Paarth   | haTu ((looks at CP))<br>ten  |
| 14 | Chandrak | ha Tuu ((writes keywords))<br>ten  |
| 15 | Paarth   | ((tilts head to look at what the PWA is writing))  |
| 16 | Chandrak | (unintelligible utterance)   |
| 17 | Paarth   | iDu haTu rupai ((demonstrates on sheet how to write 10, looks at sheet where PWA has written)) haTu<br>this is ten rupees. Ten |

In line 7 he asks his father to write ‘10 rupees’. Prior to this he had asked him for his name and when he could not say it out loud, he asked him to write it down (see extract 9.28, line 1). This time, Chandrak complies with the task of writing on demand as initiated by Paarth. The test questions in this sense function as interpersonal control strategies that are used by Paarth to test his father’s abilities. In this way Paarth assumes an authoritative role of a tester or trainer that takes them away from their roles as a family member in the conversational interaction. The authoritative role of a tester (CP) and the compliance seen by the receiver (pWA) may also be seen as feature of dependency overaccommodation,

Extract 9.33 is taken from dyad 1. In this conversational interaction the older sister Payal advises Chet to put in more of an effort to try and produce speech (line 33). Her tone of voice when advising her younger brother is authoritative. It could be suggested that her authoritative tone of voice is associated with her position in the family as the oldest sister. In this interaction it is unclear as to which underlying notions (age or communicative ability) may have influenced the position that Payal took. Her authoritative advice was interpreted as nonaccommodative in terms of interpersonal control by a third-party listener—the researcher. However, this may be perceived as concern by her younger brother.

*Extract 9.33 (dyad 1)*

|    |       |  |
|----|-------|--|
| 31 | Payal | banDmele madskol sumane yaake waste madTiya?<br>Once it comes, why will you simply waste using it?       |
| 32 | Chet  | ((look up thinking))   |
| 33 | Payal | hogi niinu bai barli antha niin prayaTna pattu<br>go, that speech must come—you must try                 |
| 34 | Chet  | ((hmm)) ((nods head in agreement))   |
| 35 | Payal | madu aDralli Idre.<br>Do it with that itself   |
| 36 | Chet  | (ahh ahh) ((Indian head nod and partially raises hand; researcher’s interpretation: ‘okay, will do it’)) |
| 37 | Payal | ah?<br>What?   |
| 38 | Chet  | ((nods head in agreement))   |
| 39 | Payal | ah hange madu.<br>Yeah, do it that way   |
| 40 | Chet  | ((no specific reaction))   |

In extract 9.34 (dyad 3), Pavmani and Chaitali engage in conversation about how (Chaitali) will indicate some of her basic functional needs. The husband here has taken on the role of a trainer to 'train' his wife on ways of indicating her needs to him. He uses examples of iconic gestures that children use in school to indicate their toileting needs (lines 4-16) to encourage Chaitali to use those gestures to inform him of her toileting needs. Pavmani's act of setting aside time to 'train' her in the use of these gestures rather than introducing them within the context of Chaitali actually indicating her need to use the toilet, deviates from natural interaction. The tendency to 'train the PWA' was a common nonaccommodative feature observed in interaction across dyads (see table 9.4). It must be noted however that, in this extract, some of the nonaccommodative discourse management occurs in the context of Pavmani attempting to find a way to encourage Chaitali to use accommodative interpretability strategies, specifically gesture, during interactions, particularly when she needs to express her needs. In this extract, Pavmani's purpose for the adjustments may be driven by a desire to support communication, however the communication adjustments on the part of Pavmani are nonaccommodative in nature and may be evaluated negatively by her father.

*Extract 9.34 (Dyad 3)*

|    |          |   |
|----|----------|---|
| 4  | Pavmani  | miss nanTiDlra ((raises right forearm with fingers folded in and the little finger raised; researcher's interpretation: gesture used by children in school to indicate 'need to pee')) (.) hengange ((shakes head)) Torisu<br>miss, standing up here                  |
| 5  | Chaitali | ((looks away))  |
| 6  | Pavmani  | miss nanTiDlra yenu? ((raises right forearm with fingers folded in and the little finger raised; researcher's interpretation: gesture used by children in school to indicate 'need to pee'))<br>miss standing up here, what's that?                                   |
| 7  | Chaitali | ((raises hand and moved it backwards, past her shoulder))   |
| 8  | Pavmani  | toilet hogTine anTa ((raises right forearm with fingers folded in and the little finger raised; researcher's interpretation: gesture used by children in school to indicate 'need to pee'))<br>going to the toilet that is  |
| 9  | Chaitali | ((nods head possibly in agreement of what the CP is saying))  |
| 10 | Pavmani  | hing andre? ((raises right forearm with fingers folded in and the index and middle fingers raised; researcher's interpretation: gesture used by children in school to indicate 'need to excrete'))<br>like this means?  |
| 11 | Chaitali | ((nods head in acknowledgement of what the CP is saying)) hm  |
| 12 | Pavmani  | ((raises right forearm with fingers folded in and the index and middle fingers raised; researcher's interpretation: gesture used by children in school to indicate 'need to excrete')) number two hogTine anTa<br>Going for number-two that is                        |
| 13 | Pavmani  | Torisu ((takes her hand and provides a full physical prompts to the PWA to use the gesture demonstrated. Folds PWA's fingers while keeping the index finger upright))<br>show   |
| 14 | Pavmani  | number two ge? ((raises right forearm with fingers folded in and the index and middle fingers raised; researcher's interpretation: gesture used by children in school to indicate 'need to excrete'))<br>For number-two (phrase used to indicate needing to excrete)? |

|    |          |   |
|----|----------|---|
| 15 | Chaitali | ((does not make change to gesture))   |
| 16 | Pavmani  | two Torisu ((takes her hand and provides a full physical prompts to the PWA to use the gesture demonstrated. Folds PWA's fingers while keeping the index and middle fingers upright))<br>show two |

Instances of emotional expression that were nonaccommodative to the pWA were occasionally observed. Extract 9.35 taken from dyad one illustrates an instance of nonaccommodative emotional expression. Here Payal asks Chet what he might like to talk about. Chet uses gestures to convey his response and appears distressed about his ability to communicate. His gestures (pointing to his neck and his mouth) suggesting that he wants to talk about his speech production (line 66). The expression of emotions by her brother with aphasia seems to upset the Payal. In her attempt to be empathetic, Payal does not accommodate to Chet's emotional needs. She uses an expression in line 69 which implies 'who opened the flood gates?'. In the turns that follow (lines 71-79), Payal attempts to comfort Chet, however her statements downplaying his current condition (lines 75-79) could be perceived as undermining of his perception of his disability and his challenges. In this interaction however, Payal's nonaccommodative behaviour, appears to occur in the context of her attempting to support her brother Chet.

*Extract 9.35 (Dyad 1)*

|    |       |   |
|----|-------|---|
| 63 | Payal | [innu yenappa nanag mathathadbeku?]<br>what more do you want to talk about?   |
| 64 | Chet  | ((Looks around the room and points finger upwards towards the roof. Unclear gesture))   |
| 65 | Payal | [Innu yen helbeku ninu ?]<br>what more do you want to say?  |
| 66 | Chet  | ((points finger towards self and then raises index finger. Facial expressions appear sad and helpless. Points towards his throat and mouth )) |
| 67 | Payal | yenu?<br>what?  |
| 68 | Chet  | ((Joins hands together; cries))   |
| 69 | Payal | yaa:r reThitbitiya↓<br>who let it out?  |
| 70 | Chet  | ((crying))  |
| 71 | Payal | alabardhu<br>should not cry   |
| 72 | Chet  | ((cries and looks away))  |
| 73 | Payal | yake?<br>why?   |
| 74 | Chet  | ((cries and looks away))  |
| 75 | Payal | yenakke?<br>for what?   |
| 76 | Chet  | ((cries. Wipes tears))  |
| 77 | Payal | ((T))<br>((sounding upset))   |
| 78 | Chet  | ((Turns to paper. Picks up pen to write))   |
| 79 | Payal | iiD yeallaru sahaja (.) bejaara padubarDhu.<br>this is common for all. You shouldn't get upset.   |

Nonaccommodative behaviours were observed among CPs who did not adjust their communication to support interaction with their partners with aphasia (see extract 9.23, extract 24), who diverged from the linguistic style of their partners (see extract 9.25). The CPs were also observed to use nonaccommodative discourse management strategies such as the use of test-questions and corrective or practice task sequences (see extracts 9.26, 9.27 and 9.28). The CPs were also observed to not support the responses of their family members with aphasia (see extract 9.28), assume authoritative roles such as that of a tester or a trainer (extracts 9.32, 9.33 and 9.34). In addition, the CPs were not always supportive of the emotional outbursts of people with aphasia and in doing so were nonaccommodative in terms of Emotional expressions (extract 9.35). Some instances of divergence were observed both by the pWA and the CPs. This was observed with regards to code switching, abrupt topic changes, use of verbal and non-verbal communication.

### 9.4.3 Avoidant Communication

Both CPs and pWA demonstrated instances in which it appeared that they wished to avoid continued interaction. Avoidant communication behaviours are influenced by previous negative experiences as suggested by CAT (Soliz & Giles, 2014). In this study avoidant communication behaviour may have been influenced by previous negative experiences of unsuccessful communication, difficulty faced by the CPs in understanding the pWA, difficulty faced by pWA in contributing to the conversation which were reported during the interviews. CPs demonstrated avoidant communication using discourse management strategies, such as topic closure, introducing test tasks including or stating the conversation was over. pWA demonstrated avoidant communication using discourse management strategies through body language (e.g., turning away for the CP), lack of engagement in conversational turns, not paying attention to the turns taken or the messages conveyed.

In extract 9.36 (dyad 10), Panchavati is interacting with Charun, her husband who has aphasia, in a sequential number generation task. To support his ability to perform the task, she narrates the sequence alongside him (lines 19-21). Charun tries to produce the sequence while repeating some of Panchavati's verbal output. In line 22 however, Charun does not continue to engage in the task. His facial expressions 'frowning' possibly indicate he is not happy with the task. Charun also looks away from his wife Panchavati, without continuing his participation in the task, Charun appears to be avoiding the task.

#### Extract 9.36 (Dyad 10)

|       |            |  |
|-------|------------|--|
| 19    | Panchavati | ah (( <i>nods head</i> )) aivaT ombaTu, aivaTu<br>ah (( <i>nods head</i> )) fifty nine, fifty                  |
| 20    | Charun     | uh aivaTu aivaTu onDu, aivaTu eradu<br>uh fifty, fifty one, fifty two  |
| 21    | Paarth     | aivaTu muuru,<br>fifty three   |
| 22    | Charun     | ((looks away and moves around in his seat, frowning his eyes and tilting his head and body to the left side )) |
| (...) |            |  |
| 69    | Panchavati | £aye haeli ya nan goTa neeve nenapiTanTa<br>Aye say it, I know you remember it                                 |

|    |            |  |
|----|------------|--|
| 70 | Charun     | aye Tu ((extends hand towards the CP and flaps hand towards the right and curling fingers inwards, looks away, smiles; 'go, forget it')) |
| 71 | Panchavati | Ēah aye haeli aiyo (.) Chumma Cholliya<br>Ah aye say it, oh boy. Simply  |
| 72 | Charun     | ((looks away ))  |

Avoidance here, occurs as a consequence of the nonaccommodative discourse management and interpersonal control strategies employed by way of the test questions and tasks in lines 19-21. Later in the same conversational interaction, Panchavati asks Charun to say something (it seems to be a song). Charun first responds with 'aye Tu' (line 70), which is evidence that he did not want to participate in the task. When Panchavati pursues her request Charun avoids her request and looks away from her (line 72). In this way, Charun displayed some evidence of avoidance communication.

In extract 9.37 (dyad 2), Paarth repeatedly asks his father about whether he is able to make a phone call and talk on the phone using the example of a particular family member.

*Extract 9.37 (Dyad 2)*

|       |          |   |
|-------|----------|---|
| 5     | Paarth   | mukeshappaange (name; relationship: family member) phone um chesThod uh?<br>Are you going to make a phone call to Mukesh uncle?   |
| 6     | Chandrak | (yene)<br>What?   |
| (...) |          |   |
| 15    | Paarth   | Hailu<br>say  |
| (...) |          |   |
| 22    | Chandrak | (Unintelligible utterance) ((shakes right hand first inward and then outward, gesture unclear ))  |
| 23    | Paarth   | HavuDa?<br>Is that so?  |
| 24    | Paarth   | ivaga belige navu ooru inDa banDava ((flaps right hand rotating wrist from right to left)) alva? (.) Bike alli? (.) nimmage yenaDru ansaiTa? yenaDru kaSta aiTa?<br>Now, this morning, we came from the village, yeah? ((flaps right hand rotating wrist from right to left)) yeah? (.) By bike (.) Did you feel anything as such? Did you face any difficulties? |

After a series of turns, he continues to ask the father to respond. However, in line 23, following a series of unclear exchange of information, he says "HavuDa" which translates to "Is that so" despite not having been able to understand Chandrak's responses to his questions. In this turn, he suggests that he has understood possibly to end the topic which is evidenced in the topic change in the following turn (line 24). In this extract, avoidant communication by way of topic closure and change follows on from an instance wherein communication breakdown appears to occur.

Similar instances of avoidant communication on behalf of the pWA and the CPs can be seen in other dyads. In dyad 8, the PWA explicitly says "paTa nahi." Which translates to "I don't know" when he was faced with difficulty responding to the CP. Instances of avoidant



communication in the communication of the pWA were also observed in dyads 1 and 14. CPs in dyad 4, dyad 6 and dyad 13 also demonstrated avoidant communication behaviours.

### **9.5 Conclusion**

All CPs of people with aphasia were observed to make some adjustments to their communicative behaviour to offer support using appropriate strategies to facilitate the person with aphasia's ability to participate in conversation. The extent of support offered and the nature of adjustment, as measured by the Kagan Scales, varied between dyads and this was not associated with the severity of the aphasia. Increased support for communication, however, was associated with increased participation during the interaction and this association was statistically significant. Application of CAT to the data allowed for a more nuanced insight into the facilitative and obstructive adjustments made by both interlocutors. Convergence was most commonly partial, and related to convergence in terms of language used, and modality of communication, for both the PWA and CP. The CPs were also observed to adjust their communicative behaviours in ways that were nonaccommodative and obstructive to the interaction for the person with aphasia. A significant amount of nonaccommodative behaviours by way of test-tasks, test questions and practice task sequences were observed across the dyads. The pWA were also observed to comply with nonaccommodative 'test' and 'practice' tasks initiated by the CP which may be associated with a feeling of 'dependency' in relation to their CPs. Despite attempts to accommodate, the ability of PWA appeared constrained in most turns (constrained accommodation). All participants with aphasia also demonstrated instances of being unable to accommodate (unavoidable nonaccommodation) owing to their aphasia. Only some instances of reluctant accommodation and avoidant communication were observed among both people with aphasia and their CPs. For people with aphasia instances of reluctant and avoidant communication were often observed following a series of 'test' and 'practice' sequences initiated by their CPs. Given the findings that communication support is related to participation on the part of the PWA, training of CPs may result in a different profile of communicative adjustments in conversation. This hypothesis is explored in Chapter 10 where the analysis of conversations after CPT are presented.

## 10 The Impact of Communication Partner Training on Conversation

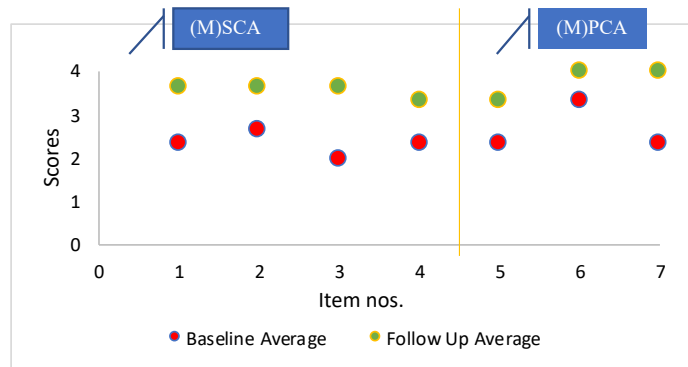
In Chapter 9 the nature of adjustment occurring in conversations involving people with aphasia (pWA) and their 'untrained' communication partners (CPs) was described. In this chapter the focus is on the 6 dyads who participated in communication partner training adapted for the Indian context (CPT-IN). From section 10.1, each dyad is examined in turn and the impact of CPT-In is explored through two lenses for each – firstly through scores on measures of conversation and secondly, through Communication Accommodation Theory (CAT). These lenses are used to investigate whether the CPT achieved the desired aims of (1) enhancing the use of facilitative communication strategies and (2) reducing the use of obstructive strategies during communication interaction. For each dyad, contextual information regarding the partners is provided, followed by the findings of the analysis using the Kagan scales (Kagan et al., 2001), analysis and illustrative extracts using CAT, and finally a summary for each dyad. These dyads were included in the discussion of communicative adjustments in untrained partners (Chapter 9), and discussion of their conversations pre-training are given less attention than the conversations analysed from the follow-up phase. The pWA and their CPs were observed to make facilitative (accommodation, constrained accommodation, reluctant accommodation) and obstructive adjustments (nonaccommodation, unavoidable nonaccommodation and avoidant communication) during communication interaction. The frequency of occurrence of the adjustments is described in terms of percentages for each dyad. In some turns, simultaneous occurrences of facilitative and obstructive adjustments were observed which is evidenced in the extracts illustrated and in the percentages described. Representative extracts are used to illustrate embedded occurrences of successful and unsuccessful interactional sequences and the interactional processes that may underlie these sequences are then described. Successful sequences are those sequences involving a series of turns where both partners were able to engage in a meaningful exchange of information made possible by 'getting the message in' and 'getting the corresponding message out'. Unsuccessful sequences involve those turns where a communication breakdown occurs owing to a lack of support in conversation or a lack of co-construction is evident. A summary of the findings in section 10.7 concludes the chapter.

### 10.1 Dyad 1

This dyad comprises Chet, a 37 year old man with very severe Broca's aphasia (AQ=18) and his older sister, Payal who is the primary CP. Their niece Preeti was also present as a second CP in some sessions.

#### 10.1.1 Chet and Payal results from the (M)SCA and the (M)PCA

CPT-In had a positive impact on the overall communicative performance of dyad 1 as measured using the Kagan scales. The average performance on each of the 7 items of the scale prior to and following exposure to CPT-In is presented in figure 10.1. An improvement is specifically present in terms of the support provided by the conversation partner. A shift in the mean from 2.33 to 3.58 was observed, indicating that Payal successfully acknowledged and revealed Chet's competence approximately >75% of the time following exposure to CPT-In as compared to approximately 50% prior to CPT-In.



**Figure 10.1 Performance of Dyad 1 on (M)SCA (items 1 - 4) and (M)PCA (items 5 – 7) scores across baseline and follow up**

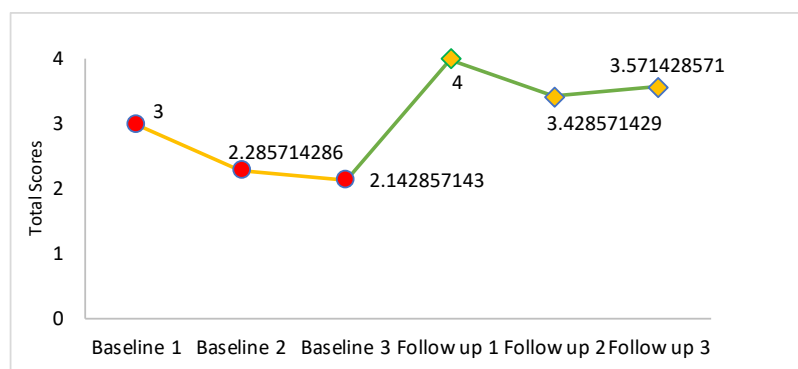
The rate of change (WEST-RoC) is statistically significant (t: 12.764; p: 0.001037) as well as showing a statistically significant upward trend (t: 5; p: 0.01539). The effect size on the combined Kagan Scales is  $d_{BS}=2.592$  (see table 10.2).

**Table 10.1 (M)SCA and (M)PCA: one-sample t-tests carried out with 95% CI and  $\alpha=0.05$**

| Dyad   | Measure         | WEST-ROC |                     | WEST-TREND |                    | Effect Size* <sup>1</sup><br>$d_{BS}$ | Interpretation  |
|--------|-----------------|----------|---------------------|------------|--------------------|---------------------------------------|---|
|        |                 | t-score  | p-value             | t-score    | p-value            |                                       |   |
| Dyad 1 | (M)SCA + (M)PCA | 13.38    | * <b>1.079</b> e-05 | 5.5983     | * <b>1.383</b> e-3 | 2.592                                 | Statistically significant difference; small effect size |
|        | (M)SCA          | 12.764   | * <b>1.037</b> e-3  | 5          | * <b>0.01539</b>   | 3.273                                 | Statistically significant difference                    |
|        | (M)PCA          | 6.0655   | * <b>0.02612</b>    | 2.5749     | 0.1235             | 1.925                                 | No statistically significant difference                 |

\*1 + As the figures for the interpretation of effect size as suggested by Beeson & Robson for aphasia interventions, are not specific to CPT, the effect sizes obtained are therefore reported but lack a statistically theoretical interpretation.

Although the performance of the PWA demonstrates a significant difference in the rate of change across baseline and follow-up stages (t: 6.0655; p: 0.02612) there is no significant upward trend in (M)PCA scores are noted, suggesting the change cannot be attributed to the intervention.



**Figure 10.2 Performance of Dyad 1 on (M)SCA and (M)PCA across sessions**

The performance may be explained by the reduction in his participation in the final follow up session, following negative communicative experiences with unfamiliar and untrained conversation partners (see extract 10.8).

### 10.1.2 Chet and Payal changes in communicative adjustment

Analysis across the baseline and follow-up conversations revealed changes in communicative adjustments made by both interlocutors. Tables 10.2 and 10.3 present the types of adjustment seen by interlocutors, specified by the phase of the study.

**Table 10.2 Summary of adjustment types observed across baseline vs follow-up conversations for Payal (dyad 1)**

| Type of adjustment     | Adjustment Strategy   | Baseline conversations (CP) | Follow-up conversations (CP) |
|------------------------|-----------------------|-----------------------------|------------------------------|
| Accommodation          | Convergence           | -                           | FU1, FU 2, FU 3              |
|                        | Discourse Management  | B1, B2, B3,                 | FU1, FU 2, FU 3              |
|                        | Interpretability      | --                          | FU1, FU 2, FU 3              |
|                        | Emotional Expression  | B 1                         | --                           |
|                        | Interpersonal Control | --                          | FU 3                         |
| Nonaccommodation       | Maintenance           | B1, B2, B3,                 | FU1, FU 2, FU 3              |
|                        | Divergence            | B1, B2                      | -                            |
|                        | Discourse Management  | B1, B2, B3,                 | FU1, FU 2, FU 3              |
|                        | Interpersonal Control | B1, B 3                     | -                            |
|                        | Emotional Expression  | B 2                         | -                            |
| Avoidant Communication | Discourse management  | B 1                         | FU 3                         |

**Table 10.3 Summary of strategies for adjustment observed across baseline and follow up sessions for Chet (dyad 1)**

| Type of adjustment           | Adjustment Strategy  | Baseline conversations (PWA) | Follow-up conversations (PWA) |
|------------------------------|----------------------|------------------------------|-------------------------------|
| Accommodation                | Convergence          | B1, B2, B3                   | FU1, FU2, FU3                 |
|                              | Discourse Management | B1, B2, B3                   | FU1, FU2, FU3                 |
|                              | Interpretability     | B1, B2, B3                   | FU1, FU2, FU3                 |
| Constrained Accommodation    | Convergence          | B1, B2                       | FU3                           |
|                              | Discourse Management | B1, B2                       | FU3                           |
|                              | Interpretability     | B1, B2, B3                   | FU1, FU2, FU3                 |
| Unavoidable Nonaccommodation | Maintenance          | B 1, B2, B3                  | FU3                           |
|                              | Divergence           | -                            | FU3                           |
|                              | Discourse Management | B1, B2, B3                   | FU3                           |
|                              | Emotional Expression | B1                           | -                             |
| Avoidant Communication       | Discourse management | B2                           | -                             |

In the discussion that follows, illustrative extracts will be used to present the adjustment observed in the pre-training phase and then following training using CPT-In.

#### **10.1.2.1 Chet and Payal prior to conversation partner training**

During the pre-training phase, the conversations appear to be led by Payal who accommodates to Chet’s communication needs by providing him with time to respond, acknowledging his use of non-verbal supports such as gestures to support his communication, responding to his non-verbally communicated responses and informative messages, and occasionally employing some of the meaningful gestures used by Chet himself which served to encourage his use of gestures. By accommodating to Chet’s communication needs in the manner described, Payal acknowledged and supported his participation in the conversation through the use of *discourse management strategies*. Payal’s use of *interpretability strategies* through using meaningful gestures supported her ability to accommodate to Chet’s receptive language needs. The use of gestures similar to those used by Chet also served to reduce the differences in the communication styles of both the PWA and the CP. Chet in turn maintained the flow of the conversation by participating in turn sharing, using gestures, head movements, facial expressions to ensure the PWA was able to comprehend his responses and other informative messages. Chet accommodated to the needs of Payal that presented in her interactions with him by using discourse management strategies to maintain the flow and continuity of conversation. He used interpretability strategies to enhance the comprehensibility of his output. He appeared to attempt to converge to Payal’s standard style of communication by producing verbal output although was unsuccessful in almost all of his turns due to his aphasia. Chet hence maintained his use of vocalisation supported by gestures when communicating with both Payal and Preeti.

In extract 10.1 taken from baseline 1, Payal is clarifying whether Chet feels he is ready and able to get back to working with the xerox machine and stamping of paper in their store. In the conversational exchange occurring prior to this, Payal introduces the topic of being able to get back to work (see lines 21-31, transcript 4P7i, appendix 18).

Extract 10.1

|    |       |   |
|----|-------|---|
| 33 | Payal | sari iduu (.) ((looks down and folds fingers inwards with his hand held perpendicular to and over the table as though holding a stamp)) rubber stamp madthaiDiya alla?<br><b>okay this, doing the rubber stamps, yes?</b> |
| 34 | Chet  | (hm) ((folds fingers inwards with right hand held perpendicular to and over the table as though holding a stamp; nods head with a slight tilt to the left side))  |
| 35 | Payal | aDanu naavu yaranu madikotrane nivu >ethkondhohi madskond badThiThane?<<br><b>that, if we handover this to someone, will you do it and pick it up yourself?</b>   |
| 36 | Chet  | (hm) (0.4) ((folds fingers inwards with right hand raised above the table as though holding a stamp mid-air. Indian head nod.))   |
| 37 | Payal | aah?<br><b>what?</b>  |
| 38 | Chet  | ((repeats above gesture, folds fingers inwards with right hand held perpendicular to and moving it at different points over the table as though holding a stamp and using it to stamp paper)) (T:)                        |
| 39 | Payal | rubber stamp aaah?<br><b>rubber stamp is it?</b>  |
| 40 | Chet  | ((nods head in agreement))  |
| 41 | Payal | madisthiya? ((pauses and waits for PWA to respond while maintaining eye contact with him))<br><b>will you do it?</b>  |
| 42 | Chet  | ((folds fingers inwards with right hand raised above the table as though holding a stamp mid-air, Indian head nod))   |

Throughout the interaction she maintains her preferred standard style of verbal communication but acknowledges and reveals Chet's competence by accepting and responding to his use of nonverbally supported responses (lines 35-41, extract 1). In the majority of turns she partially accommodates to Chet using discourse management strategies by posing yes-no questions (see lines 33, 35, 39, 41) to enquire and to clarify which allow him to respond with vocalisation and head movements. The accommodation however is only partial as his responses are restricted to a yes/ no without scope for elaboration when he desires. In line 33, Payal employs an accommodative interpretability as well as a discourse management strategy in unison by using a gesture to support her question, which in turn, encourages the PWA to use gestures in support of his communication. Payal's use of gestural support also indicates her acceptance of gestural use in conversation. In line 34, Chet mimics Payal's gesture to reveal his comprehension of her message and employs interpretability strategies by using head movements and gestures to indicate that he is able to carry out the stamping of paper. Payal continues this topic but introduces a new idea (handing over the job to someone) while also structuring her question as a dual question ('will you do it' and 'pick it up yourself'). Her use of a yes-no question in line 35 functions to support Chet's ability to respond to her question, which is therefore analysed as a discourse management strategy. However, by bringing in two parts to her question, she places an increased load on Chet to respond without providing him with any support. Chet, takes a while to formulate his response to her question (vocalises and waits 4 seconds before responding gesturally in line 36). The fact that his gestural response lacks sufficient information suggests that he finds responding to the question challenging. He employs interpretability strategies using gestures to convey a key content word— 'stamp' (lines 36 and 38) but is constrained in his ability to fully accommodate to Payal in these turns. The message he desires to convey is therefore not

fully comprehensible to Payal and in lines 37- 41 she continues to make attempts to clarify Chets’s responses while maintaining her verbal modality.

Directly continuing from extract 10.1, in extract 10.2, Payal appears to expand the topic (occupation related matters). She addresses another work-related issue that is relevant to Chet, that of his feelings about his interactions about the people around his workplace. By choosing a topic of relevance and interest to Chet, she employs a discourse management strategy that has the intended purpose of enhancing his participation in the conversation. She further supports his response by posing a yes-no question. Chet in turn (see line 44), responds with multiple gestures that provide additional information to the question posed by his sister. By accommodating to the comprehension needs of Payal and by contributing additional information to the topic, Chet can be said to employ interpretability and discourse management strategies respectively.

*Extract 10.2*

|    |       |  |
|----|-------|--|
| 43 | Payal | angadre neenu (.) aache kade hogi (.) swalpa = yarana maTadsin kopa barutha:?<br><b>in that case, if you go that side, when you talk to anyone, do you get angry?</b>  |
| 44 | Chet  | (( <i>thinking</i> )) uhhh (( <i>points to self</i> )) ehh (( <i>raises hand to the level of his head, folds fingers inwards making a fist and moves hand in a forward cyclical motion near the right side of his head; RI: possibly indicating 'knocking them'</i> )) |
| 45 | Payal | buDbeka ansuTa?<br><b>you feel like you want to punch them?</b>  |
| 46 | Chet  | (( <i>smiles and nods head in agreement</i> )) (hm)  |
| 47 | Payal | aDella madabarDu (( <i>disappointed tone of voice</i> )) kopa Dalli.<br><b>all of that you shouldn't do. In anger.</b>   |
| 48 | Chet  | (( <i>smiles and nods head appearing to acknowledge awareness that CP is right; tilts head head towards the right side and extends right hand forward towards the CP; facial expressions indicate 'but I can't help it'</i> ))   |

Payal clarifies her inference of Chet’s message using a yes-no question in line 45 which supports his participation thereby maintaining the flow of the conversation. She goes on to advise him in the three turns following with a perceivably patronising tone of voice. This may be perceived by a third-party listener as a nonaccommodative interpersonal control strategy as it places the PWA in an ‘inferior’ position. However, it is not clear if the difference in positionality portrayed by Payal’s patronising tone is a pre-morbid feature of the relationship owing to birth order or if it relates to as assumed sense of superior communication abilities. In lines 48-51 Chet appears to accede to Payal’s assumed positionality by responding to her advice with gestures and head movement that both negotiate his stance on the topic as well his acceptance of her advice. Chet’s cooperation in this instance functions to respect Payal’s positionality as his older sister and primary giver and may therefore be considered as a feature of dependency accommodation. Maintenance of the verbal style of communication, despite awareness that the PWA (Chet in this case) has difficulty communicating using the verbal modality, hinders Chet’s ability to respond and participate effectively in communication interaction. Chet makes an attempt to adjust his communication by repeating the same gestures he used in his previous turns and by using head nods to respond to the yes-no questions posed to him. but his accommodation is constrained by his aphasia. Payal’s partial adjustment to her communication using accommodative discourse management strategies such simplified yes-no questions, acknowledging and inferring Chet’s non-verbal input, only partially supports Chet’s ability to get the message out and risks resulting in missing and incomplete

information. It could also be suggested that Payal’s attempt to infer one aspect while then moving the focus to another topic as seen in extract 10.2 was in an attempt to minimise drawing attention to the partial communication breakdown brought about by the lack of support available to Chet to communicate his message. Similar patterns were observed across the baseline conversations between Chet and Payal.

*Across the baseline conversations* Payal was observed to make accommodative adjustments by her use of gestures in approximately 45% of her turns. These were observed in the form of accommodative discourse management and interpretability strategies by way of acknowledging and responding to the use of gestures by Chet, as well occasionally using some of those gestures used by him during conversation. She was observed to be nonaccommodative in approximately 98% of her turns. Nonaccommodation was observed by way of maintenance of the verbal style of communication, despite the PWAs use of non-verbal gestures.

**Table 10.4 Adjustment observed in the turns of Payal and Chet across the baseline conversations.**

|    |     | Accommodation | Constrained Accommodation | Nonaccommodation | Unavoidable Nonaccommodation | Avoidance Communication |
|----|-----|---------------|---------------------------|------------------|------------------------------|-------------------------|
| B1 | CP  | 41%           | -                         | 95%              | -                            | -                       |
|    | PWA | 45%           | 34%                       | 1%               | 69%                          | 4%                      |
| B2 | CP  | 51%           | -                         | 100%             |                              |                         |
|    | PWA | 41%           | 41%                       | 2%               | 86%                          | 3%                      |
| B3 | CP  | 42%           | -                         | 99%              | -                            | -                       |
|    | PWA | 58%           | 38%                       | 5%               | 68%                          | -                       |

Note: The percentiles in these tables are calculated by viewing the number of turns coded to each adjustment type for each interlocutor. In most turns, more than one type of adjustment is present.

Chet was observed to be accommodative in approximately 48% of his turns across the baseline conversations which was predominantly observed to be in the form of interpretability strategies such as the use of gestures and pointing as well as discourse management strategies by way of turn-taking. The use of head nods to acknowledge Payal’s turns as well as to indicate ‘yes’ was also considered to be an accommodative in terms of maintaining the flow of the conversation (discourse management strategy) and as an interpretability strategy. This was particularly observed in the third baseline. His accommodation was observed to be constrained in approximately 37% of his turns owing to his aphasia and the lack of support available to support his communication. The lack of support affected Chet’s ability to contribute further to the conversation in most of his turns. In approximately 3% of his turns, his communicative behaviour was observed to be nonaccommodative and in 74% of his turns, he was observed to be unavoidably nonaccommodative. This was usually associated with a lack of adjustment (predominantly owing to his aphasia) made to his communication to enhance the interpretability and successfully contribute to the conversation. Instances of avoidance communication were observed in approximately 2% of his turns. This was observed to be associated with nonaccommodation in Payal’s turns by way of interpersonal control.



### 10.1.2.2 *Chet and Payal following conversation partner training*

In the sessions following CPT-In, there was an increased use of accommodative discourse management and interpretability strategies used by both Payal and Chet. The changes in adjustments were characterised by improved transaction in conversation with more detailed contributions from Chet made possible by the use of discourse management and interpretability strategies. Payal, in some instances demonstrated a tendency to insist on the use of keywords even when not required which appears to disrupt the feel and flow of conversation in those instances. When interpretability and discourse management strategies such as the use of keywords are used more than to the extent required, it might be perceived by the PWA as overaccommodative and as undermining. Chet employed accommodative interpretability strategies in most turns by engaging with the written supports and, when not available, using gesture to support his expression to accommodate Payal's comprehension needs. By engaging with the written supports, he also supported her ability to clarify her inferences made from his responses more accurately. Chet was therefore accommodative in terms of the discourse management strategies used in all of his turns. Some amount of nonaccommodation in terms of discourse management strategies was observed in Chet's turns, in the final follow up session at 6 weeks following training (refraining from the use of supportive strategies initiated by Payal, demonstrating disinterest in interacting). This may have been related to his mood which the participants reported as being impacted by a negative interaction in the community.

In extract 10.3 taken from follow up 1 (3 days after CPT-In), Payal is discussing going to 'Yeshwanthpur', a town in Bangalore and to a shop that sells fresh sugarcane juice. She uses interpretability strategies to support Chet's comprehension when she introduces the context (line 1) and in her subsequent questions (lines 3, 7, 9) where she uses key words to support the interaction. At each turn she also employs discourse management strategies by inviting Chet to take a turn to acknowledge that he has understood the information she is providing. She does this by ending each turn with a question like word such as 'yeah?' or 'right?'. However, this process takes time, possibly owing to the process of getting used to the use of writing in conversation, and impacts the flow of conversation to some extent. This is visible in lines 1, 3 and 7 where instances of pauses occur when Payal requires to write or sketch.

Extract 10.3

|   |       |  |
|---|-------|--|
| 1 | Payal | Sari, iDu (0.6) ((writing key words)) YeShwanTpur (town in Bangalore) ge hodbekaNTa alla<br><b>Right, thus, want to go to Yeshwanthpur, yes?</b> |
| 2 | Chet  | ((nods head in acknowledgement))   |
| 3 | Payal | Alle (0.3) a angadi yavaDu iTa: ((drawing a sketch)) (0.10) Kabbu Do?<br><b>Over there, that shop was there, the Sugarcane one?</b>              |
| 4 | Chet  | ((nods head in agreement))   |
| 5 | Payal | ah?<br><b>Yeah?</b>  |
| 6 | Chet  | ((nods head in agreement))   |
| 7 | Payal | machine. ((writes keywords)) (0.4) Machine bekonTe alla?<br><b>Machine. They want a machine, right?</b>  |
| 8 | Chet  | ((Indian head nod))  |

|    |       |  |
|----|-------|--|
| 9  | Payal | avanige? [Ah] ((points to keywords)) yavoTu hoganna allige?<br><b>for them? Ah. On what date shall we go there?</b>                      |
| 10 | Chet  | [[((nods head))] ah ruh ((nods head, taps sheet with keywords)) ruh ((raises right arm and extends it forward at an upward inclination)) |
| 11 | Payal | a [[((nods head))] Yavaga hogubekanTa helTiya?<br><b>Ah when do you want to go you are saying?</b>                                       |
| 12 | Chet  | [[((nods head))] ((takes sheet and looks up to think ))  |
| 13 | Payal | ((pulls sheet back to herself)) Sanivara hoganna? ((Writes down options for dates))<br><b>Shall we go on Saturday?</b>                   |
| 14 | Chet  | ((nods head in acknowledgement of what CP is saying ))   |
| 15 | Payal | Banavara hoganna?<br><b>Shall we go on Sunday?</b>   |
| 16 | Chet  | ((nods head in acknowledgement of what CP is saying ))   |
| 17 | Payal | Illa somvara hoganna?<br><b>Or should we go on Monday?</b>   |
| 18 | Chet  | ((picks up pen, takes sheet towards self, points to Somvara, adjusts angle of the sheet and marks the KW Somavara))                      |
| 19 | Payal | Somvara hoganna? ((points to keyword -somavara))<br><b>Should go on Monday?</b>  |
| 20 | Chet  | mm hmm ((Indian head nod))   |
| 21 | Payal | iDu rite ah? Hogbeka yenna?<br><b>Is this correct? You want to go or what?</b>   |
| 22 | Chet  | mm ((Indian head nod)) hmm ((Indian head nod, folds all fingers in to make a fist with thumb erect))                                     |

Payal's use of written keywords, however, does not extend to supporting Chet to express himself in the first few turns (lines 1-12) of the interaction. In line 9, she maintains her verbal style and asks Chet when he wants to go to Yeshwanthpur providing him with no additional support to respond. Chet resorts to his use of gestures as seen in line 10, to convey his message but has difficulty responding further with the requested information. Payal becomes aware of Chet's difficulty, when she herself finds it difficult to comprehend his message and therefore employs discourse management strategies to accommodate to his needs using written keywords and symbols as seen in lines 13-21. Chet, instantly picks up his pen and points to the relevant keywords providing an accurate response to the question asked— indicating he would like to go on 'Somavara' (Monday). Payal in turn employs interpretability and discourse management strategies accommodatively using pointing to verify her interpretation of his response. Chet confirms his response using head movements and vocalisation while acknowledging the keyword being pointed out by Payal. In lines 13-22, the feel and flow of the conversation is observably more natural than that observed in lines 9-12.

In extract 10.4, again from follow up 1, Payal and Chet are discussing going shopping for clothes. In all the turns displayed, Payal demonstrates use of interpretability and discourse management strategies by using keywords and pointing to find out what coloured shirt Chet would like to buy. Chet engages with the keywords by pointing to them along with vocalisation and head movements as well using props as seen in line 111 where he tugs at his blue shirt to indicate the colour. This choice is then confirmed by Payal in lines 112-116 where she uses keywords. Chet employs interpretability and discourse management

strategies in unison by actively participating using gestures, keywords and props in consideration of his expressive abilities to accommodate to the comprehension needs of Payal.

*Extract 10.4*

|     |       |   |
|-----|-------|---|
| 110 | Payal | Shirtu? ((writing keywords 'hasiru')) Hasuru<br><b>Shirt? Green</b>                                   |
| 111 | Chet  | uh ((extends left arm and tugs at his sleeve with his right hand, showing it to the CP)) ruuh £uhh    |
| 112 | Payal | ah? £niili ((nods head)) beka?<br><b>What? You want blue?</b>   |
| 113 | Chet  | ah ((nods head to say 'yes'.))  |
| 114 | Payal | niili ((marks chosen option on sheet))<br><b>blue</b>   |
| 115 | Payal | Ivaga ningu hasiru bedava? ((pointing to keyword 'hasiru'))<br><b>Now, you don't want green then?</b> |
| 116 | Chet  | hmmhmm ((shakes head to say 'no'))  |

This pattern of conversation, involving the use of discourse management and interpretability strategies in unison (demonstrated through the use of keywords and pointing for comprehension and expression purposes by both Chet and Payal), is present in the first two follow-up sessions from dyad 1, taken following CPT-In. However, a reduction in its use is observed in the final follow up described later.

In extract 10.5 (again from the first follow-up conversation), Payal seems to intend to enquire about how Chet is feeling about himself following his stroke. In the turns following, however, her statements and questions elicit a negative reaction by means of avoidance (avoidant communication) which is manifested in the form of Chet looking away and appearing visibly upset. Payal's turns (lines 153 and 155) could be said to be nonaccommodative in terms of emotional expression.

*Extract 10.5*

|     |       |   |
|-----|-------|---|
| 151 | Payal | Sari, ivaga ninge iTella ((Indian head nod, points towards the table and sheets)) avaiTalla?<br><b>Right, now all of this has happened to you yeah?</b>   |
| 152 | Chet  | ((nods head in acknowledgement of what the CP is saying))   |
| 153 | Payal | nan iTara ((points to self)) iDeeni, (.) madThina idu ninge yenu ((shakes head)) ansThailva?<br><b>I am this way, do you not do this and have these thoughts?</b>   |
| 154 | Chet  | ((shifts gaze downwards and looks away))  |
| 155 | Payal | bai bittu helabeku ((outward rotation of hand at the level of neck and mouth))<br><b>besides your mouth, you must tell</b>  |
| 156 | Chet  | ((looks away with downward gaze; facial expressions indicate he is upset with what CP said))  |
| 157 | Payal | hangalla ((shakes head)) munDina nan prayaTna padThini. Channag aguTe<br><b>not like that, henceforth, I will try. It will become better.</b>   |
| 158 | Chet  | ahh ((places hand at the level of his neck and mouth and shakes it in a vertical motion)) (ruhh) ((places hand at the level of his neck and mouth and shakes it in a vertical motion with an outward tilt)) |

Such nonaccommodative behaviour and similar strategies for emotional expression, were observed to result in avoidant communication (e.g., looking away) along with nonaccommodative discourse management behaviour (e.g., not responding to the CP) across dyads both prior to and following training. In this extract, Payal then goes on to advise Chet to have a more positive and determined attitude in line 157. Chet indicates agreement and responds using gestures and vocalisation (line 158).

In extract 10.6 taken from the second follow up, it can be observed that following exposure to the use of writing as a conversational support, Chet himself initiates the use of writing. The use of written keywords enables him to contribute to the conversation with specific details.

*Extract 10.6*

|       |       |   |
|-------|-------|---|
| 19    | Payal | sari. Ah yar-yary hoguDu bayajan niinu? (( <i>points to sheet of paper</i> ))<br><b>right. Whom all will go do you suppose?</b> |
| 20    | Chet  | (( <i>pauses to think. Attempts to write his response.</i> ))   |
| 21    | Payal | bari nanille?<br><b>Will I only write?</b>  |
| 22    | Chet  | (( <i>continues to write</i> ))   |
| (...) |       |   |
| 25    | Payal | ah Ma:ya (name: relationship unknown) (0.2)<br><b>ah Maya</b>   |
| 26    | Chet  | (( <i>continues to write</i> ))   |
| 27    | Payal | SuniTa (name: relationship unknown) (0.2)<br><b>Sunitha</b>   |

In the turns prior to this extract, Payal and Chet are discussing planning a pilgrimage trip to Dharmasthala (a place of pilgrimage religious retreat for Hindus in India). In the extract shown they are discussing who will be included as a part of their group. Chet employs an interpretability strategy by writing a list of names, as they come to mind. In line 21, Payal suggests she do the writing, perhaps with the idea of reducing the burden on Chet. The intention of Payal's act is unclear. However, this act appears to be nonaccommodative in terms of discourse management and interpersonal control, evidenced by Chet's response— Chet does not comply to Payal's request and continues to write. She accepts his non-compliance and they continue with making the list.

It was also observed that on some occasions Payal appeared to insist on the use of written keywords perhaps with the intention of 'abiding by the rules' rather than for the purpose of discourse management. In extract 10.7, which is a continuation of the conversation in extract 10.6, Payal enquires about the preferred mode of transport for their visit to Dharmasthala. Chet uses interpretability strategies to gesture what appears to be 'driving a car' (line 58). In line 59, Payal acknowledges his gesture but states that they must 'write and show'. In the turns following, she lists out various optional modes of transport in addition to the already listed 'car'. Chet promptly responds by pointing to the keyword that indicates 'train' which contradicts the information revealed in the preceding turns (lines 58-59). Payal accepts this response and confirms it in the turns following. This incident, wherein Chet successfully uses the written keywords to indicate a response which was previously misunderstood by Payal, highlights the importance of using written keywords to support conversation and verify information.

Extract 10.7

|       |       |  |
|-------|-------|--|
| 57    | Payal | yavaDaralli hogTiya? ((writes down keyword)) (.) car<br><b>by what will go? Car?</b>   |
| 58    | Chet  | (ah uhhh) ((partially raises both hands bent at the elbows to demonstrate steering a wheel to drive a car))  |
| 59    | Payal | aDarDe car. aDe bari Torisbeku. ((nods head acknowledging PWAs non-verbal response, continues to write))<br><b>that only. Car. That we must write and show</b> |
| (...) |       |  |
| 63    | Payal | car alla (0.3) ((writes down keywords))<br><b>by car?</b>  |
| 64    | Chet  | ((nods head in acknowledgement ))  |
| 65    | Payal | rail alla? ((writes down keyword, slides sheet towards PWA))<br><b>by train?</b>   |
| 66    | Chet  | (ahh eyy rehkh) ((marks option three 'rail', nods head stressing this is the ight option))   |
| 67    | Payal | rail alla? ((points to keyword, marks keyword))<br><b>by train?</b>  |
| 68    | Chet  | ((nods head to say 'yes' ))  |

During the final follow up session at six weeks following CPT-In, Chet appeared to refrain from using the supportive strategies offered by Payal in the initial part of the conversation. He also appeared distressed and disinterested.

Extract 10.8

|       |       |  |
|-------|-------|--|
| 1     | Payal | ah (.) Eavaru joTeyal hoDre ((draws emoji)) negiTaran bitta?<br><b>If you go along with them, they start laughing is it?</b>                                     |
| 2     | Chet  | ah ((nods head repeatedly to say yes, raises right hand and moves it up and down along a vertical plane; Researchers interpretation: laugh a lot ))              |
| 3     | Payal | negiTaran bitta?<br><b>Laughing is it?</b>   |
| 4     | Chet  | ah ((nods head repeatedly to say yes, raises right hand and moves it up and down along a vertical plane Researchers interpretation: laugh a lot ))               |
| (...) |       |  |
| 7     | Payal | yake? negiTare ninge? ((sketches symbols))<br><b>why? Why do they laugh?</b>   |
| 8     | Chet  | ((slightly raises right hand, faces palm towards the CP and shakes it))  |
| 9     | Payal | maTu baralla bittu?<br><b>Cause speech can't come?</b>   |
| 10    | Chet  | (ahh) ((nods head strongly to say 'yes' ))   |
| (...) |       |  |
| 13    | Payal | niinu (0.2) maTadBouDa ((sketches symbols)) alla niinu? ((sketches symbol))<br><b>you could speak right?</b>   |
| 14    | Chet  | hmm ((shakes head, looks down, angry facial expressions, raises right hand, faces palm towards the CP and shakes it to say 'no' ))                               |
| 15    | Payal | ((turns to look at researcher)) clearag pusTaka woDBouDa alla?<br><b>You can clearly read from the book yeah?</b>  |
| 16    | Chet  | ((head hanging low; partially raises arm towards the CP; shakes head; researchers interpretation: PWA is questioning the CPs suggestion and in unhappy with it)) |

Discussion between Chet and Payal during the conversation revealed that Chet encountered some unpleasant experiences with neighbouring shopkeepers who laughed at his use of writing and gestures and his inability to produce the socially preferred verbal speech (extract 10.8). In line 1 of extract 10.8, Payal enquires if ‘they’ (neighbouring shopkeepers and peers) laugh when he interacts with them. She sketches emojis as a function of discourse management strategies to allow Chet to accurately indicate what their reactions are. However, he pays no attention to the written supports she offers. He remains seated further away from the table with his head looking down and frowning for most of the interaction. In response to Payal he uses head movement and gestures to indicate that his peers laugh a lot. This pattern is observed through the initial part of the interaction for up to 36 turns. During the follow up interview (interview excerpt 10.1) with the researcher, Chet nodded in agreement as Payal reported on the impact of the incident,

*Interview excerpt 10.1 (para 104)*

|       |   |
|-------|---|
| Payal | <p>“avaru eevaga ee ((<i>points towards the PWA</i>)) hogalva, alla? avagnannu hogalla avaru iralla, aaDrannu, angadi aTra hogbaekaDrae, avaru kelasaDavaru Della irTara alla? vonTara hangstare—oo ivaru hangida. eevaga nodi hingaagbittu avannu maTDak avaru”</p> <p><b>“Now he ((<i>points towards the PWA</i>)) does go<sup>1</sup>, right? Then, when he wouldn’t go, they wouldn’t be there. Even then, if you have to go near the shop, they, the workers would there be right? They laugh in some peculiar way—Ohh he used to be that way<sup>2</sup>. Now look, after this has happened, he is one who doesn’t speak up.”</b></p> |
|-------|---|

Simmons Mackie (2018) suggested that untrained interlocutors are more likely to negatively evaluate atypical communication such as that presented by Chet in this context. It could be suggested that the negative evaluation of Chet’s communication by the neighbouring shopkeepers may have had an impact on his participation in conversation, his apparent sense of self, his willingness to re-join work and even participate in supported conversation. Chet and Payal reported in the interview (interview excerpt 10.2) that:

*Interview excerpt 10.2 (para 103)*

|       |   |
|-------|---|
| Payal | <p>“aDarinDanae avarigae bejara aguDu. algoTae kelasakaTrae hogalla”</p> <p><b>“It is from that itself, that he has gotten upset. Because of that, now he doesn’t go there for work.”</b></p> |
|-------|---|

In lines 33 to 36, of extract 10.9 when Payal enquires as to whether he will practice his communication with Preeti, his niece, he uses head movements to indicate that he will do so.

*Extract 10.9*

|    |       |  |
|----|-------|--|
| 33 | Payal | Preeti aTra prayaTna padTira? (( <i>sketching yes/no symbols</i> ))<br><b>Will you try with Preeti</b> |
| 34 | Chet  | (hmmm) (( <i>nods head strongly to say 'yes' </i> ))   |
| 35 | Payal | ah? (( <i>points to symbols</i> ))<br><b>what?</b>   |
| 36 | Chet  | (ah reh hh reh hh) (( <i>head nod possibly indicates him conveying he will try</i> ))                  |

<sup>1</sup> ‘go’ refers to ‘go to work’

<sup>2</sup> ‘that way’ in the context of the ongoing conversation, refers to a ‘way of behaving’ or ‘a vice’ and has a negative connotation to it.

Following the initial 36 turns, Chet was observed to engage with the written supports offered by Payal to support their conversation. In extract 10.10 he uses gestures to respond to Payal's open question posed in line 65. He indicates that his reduced interest in curries is due to what Chet agrees to as pain. Chet acknowledges Payal's use of written symbols (lines 67, 69 and 71) and responds to them using head movements in lines 68 and 72 and by pointing to the symbols themselves in line 70. This increased convergence aligns with the increased participation of Chet.

*Extract 10.10*

|    |       |   |
|----|-------|---|
| 65 | Payal | ninage yake bere saar aSto iSto padalla?<br><b>Why don't you like other curries?</b>  |
| 66 | Chet  | (ehh Trehh) ((looks up and placed hand on throat while producing unintelligible speech; researcher's interpretation: PWA is possibly conveying he had difficulty swallowing)) |
| 67 | Payal | novu agaTa? ((points to symbols indicating 'yes'))<br><b>you feel pain?</b>   |
| 68 | Chet  | (hmm mm) ((nods head to say 'yes'))   |
| 69 | Payal | llva? ((pointing to symbol indicating 'no' on sheet))<br><b>No?</b>   |
| 70 | Chet  | ((shakes head; points to symbol indicating 'yes' indicating he does have pain))   |
| 71 | Payal | novu aguTa? ((pointing to symbol on sheet))<br><b>you feel pain?</b>  |
| 72 | Chet  | (hm) ((nods head to say 'yes'))   |

In extract 10.11 Payal says, 'more', appearing to consider how to continue the conversation. Following a brief silence, Chet suggests, through gesture, that they leave the hospital. Payal enquires as to why he wants to leave. However, she does not offer support to allow Chet to respond, his facial expressions and head movements however reveal he is upset. Payal infers this and clarifies her interpretation using symbols. Chet confirms his response using head movements indicating he is feeling sad. The flow of conversation is natural here and although Chet does not fully accommodate to Payal by engaging with the written supports she offers, he employs interpretability strategies using head movements, gestures and facial expressions to convey his message. His lack of active engagement and participation in the conversation maybe owing to his mood which may have been affected some of the negative experiences he encountered in the weeks prior to this session.

*Extract 10.11*

|     |       |  |
|-----|-------|--|
| 113 | Payal | ahh (0.3) innu ((looks upward thinking, yawns)) (0.3)<br><b>more</b>   |
| 114 | Chet  | ((Looks at CP with the Indian head nod and partially raises right hand with palm facing the CP and shakes it; then turns palm inwards signalling 'leave'; Researchers interpretation: PWAs facial expressions and gestures indicate PWA suggesting this is enough and wants to leave)) |
| 115 | Payal | yaake?<br><b>Why?</b>  |
| 116 | Chet  | ((Indian head nod, angry facial expression ))  |
| 117 | Payal | havuDu ((sketches symbols, writes keywords)) haaspiTregge ((writes keywords))<br>ivaTu bejara aagTaiDa?<br><b>Yes, relating to the hospital today, are you feeling sad?</b>  |
| 118 | Chet  | ((nods head repeatedly to say 'yes'))  |

Payal appears to understand the importance of the use of supportive strategies during conversation with Chet and is able to use the strategies actively. However some more sessions might be required to monitor, problem solve, address specific obstructive behaviours such as the overuse of ‘taught’ interpretability strategies, and the risk of nonaccommodative emotional expression.

In the conversations recorded during the follow up phase, Payal was observed to demonstrate changes in her use of accommodative communication, particularly her willingness to use modalities other than verbal communication. The number of turns coded according to the different types of adjustment evidence this change. Payal is accommodative in 97% of her turns in conversations recorded during the first two sessions, however this reduced to 83% in the conversation recorded at six weeks following the intervention. In contrast to the baseline sessions, there was strong evidence of accommodative communicative behaviour. Payal demonstrated nonaccommodative communicative behaviour in approximately 32% of her turns during the first two follow up conversations, but this increased to 63% in the conversation recorded at the final follow up session. Instances of nonaccommodation associated with overuse of interpretability strategies were also observed. Payal was also observed to exhibit avoidance communication in 5% of her turns at the final follow up.

**Table 10.5 Adjustment observed in the turns of Payal and Chet in the conversations following CPT**

|      |     | Accommodation | Constrained Accommodation | Nonaccommodation | Unavoidable Accommodation | Avoidance Communication |
|------|-----|---------------|---------------------------|------------------|---------------------------|-------------------------|
| FU1  | CP  | 96%           | -                         | 19%              | -                         | -                       |
|      | PWA | 70%           | 41%                       | -                | 9%                        | 3%                      |
| FU 2 | CP  | 98%           | -                         | 44%              | -                         | -                       |
|      | PWA | 87%           | 53%                       | -                | 36%                       | -                       |
| FU 3 | CP  | 83%           | -                         | 63%              | -                         | 5%                      |
|      | PWA | 61%           | 47%                       | -                | 54%                       | -                       |

Chet was observed to be accommodative in 79% of his turns, in the first two follow up evaluations which then reduced to 61% at the final follow up, again an overall increase in the proportion of turns coded as accommodative compared to the baseline phase. The accommodation in some aspects of his communicative behaviour (convergence, interpretability) appeared to be constrained in 47% of his turns on average, an increase in comparison to the baseline phase. This increase may be attributed to the fact that participation was higher and therefore there were increased opportunities for this turns to be constrained. Chet’s communicative behaviour increased in terms of the number of turns coded as unavoidable nonaccommodation across the follow-up sessions but remained below that observed in the baseline sessions.

### 10.1.3 Summary of dyad 1

A significant improvement in the interaction between Payal and Chet was observed from the baseline to the follow up sessions as measured on the Kagan scales (see table 10.2) Analysis using CAT provided a means to understand these changes, with an increased use of convergence, interpretability and discourse management strategies as well as decreased divergence and nonaccommodative emotional expression behaviour. Viewed by number



of turns coded to each adjustment type, a marked improvement is clear (Table 10.6). However, the impact of negative experiences involving untrained third party listeners is evident in the final follow up conversation.

**Table 10.6 Summary of the adjustment observed in the conversations between Payal and Chet across the baseline and follow up evaluations**

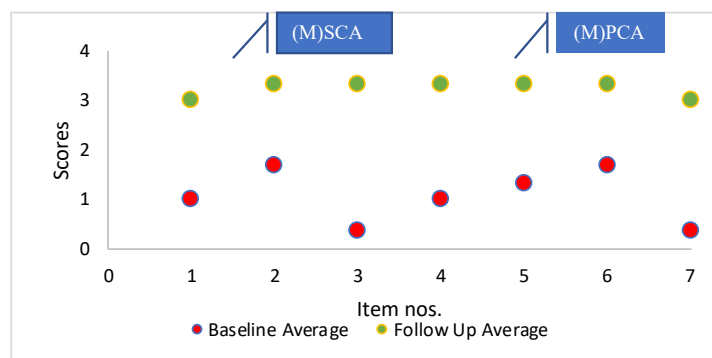
|       | Nature of Adjustment | Type of adjustment           | B1  | B2   | B3  | FU 1 | FU 2 | FU 3 |
|-------|----------------------|------------------------------|-----|------|-----|------|------|------|
| Payal | Facilitative         | Accommodation                | 41% | 51%  | 42% | 96%  | 98%  | 83%  |
|       | Obstructive          | Nonaccommodation             | 95% | 100% | 99% | 19%  | 44%  | 63%  |
|       |                      | Avoidance Communication      | -   | -    | -   | -    | -    | 5%   |
| Chet  | Facilitative         | Accommodation                | 45% | 50%  | 58% | 70%  | 87%  | 61%  |
|       |                      | Constrained Ac               | 34% | 41%  | 38% | 41%  | 53%  | 47%  |
|       | Obstructive          | Nonaccommodation             | 1%  | 2%   | 5%  | -    | -    | -    |
|       |                      | Unavoidable Nonaccommodation | 69% | 86%  | 68% | 9%   | 36%  | 54%  |
|       |                      | Avoidance Communication      | 4%  | 3%   | -   | 3%   | -    | -    |

## 10.2 Dyad 2

Dyad 2 comprises a father and son - Chandrak, a 60 year old man with severe Broca's aphasia (AQ = 30.5), and Paarth, his son and one of two primary caregivers.

### 10.2.1 Chandrak and Paarth results from (M)SCA and (M)PCA

A significant impact of CPT on overall communicative performance is evident for dyad 2. There is a significant difference ( $t = 10.919$ ;  $p = 3.501 \times 10^{-5}$ ) observed in the overall rate of change in the sessions following CPT as compared to that in the baseline sessions as well as a significant upward trend ( $t = 8.4995$ ;  $p = 0.0001452$ ) following CPT. An effect size of  $d_{BS} = 2.617$  is seen for dyad 2.



**Figure 10.3 Performance of Dyad 2 on (M)SCA (items 1 - 4) and (M)PCA (items 5 – 7) scores across baseline and follow up**

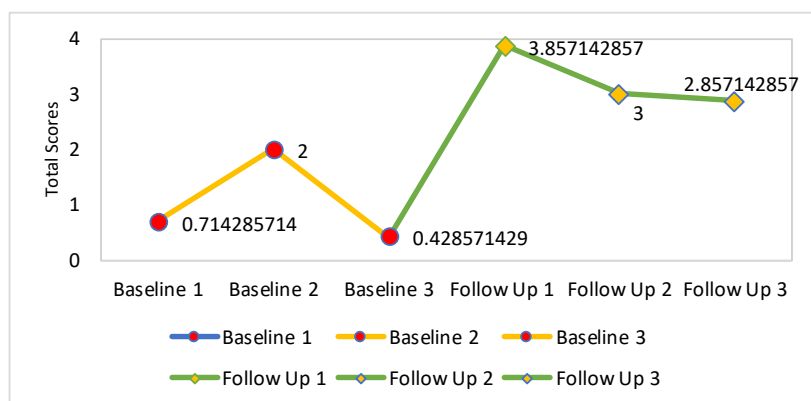
A significant difference (t: 8.9669; p: 0.002927) in the rate of change of the measure of support provided by Paarth in conversation is present in the follow up sessions as well a significant positive trend in improvement (t: 5.6693; p: 0.01087) (see table 10.7).

**Table 10.7 (M)SCA and (M)PCA: one-sample t-tests carried out with 95% CI and  $\alpha=0.05$**

| Dyad   | Measure         | WEST-ROC |                  | WEST-TREND |                 | Effect Size*<br>$d_{BS}$ | Interpretation                       |
|--------|-----------------|----------|------------------|------------|-----------------|--------------------------|--------------------------------------|
|        |                 | t-score  | p-value          | t-score    | p-value         |                          |                                      |
| Dyad 2 | (M)SCA + (M)PCA | 10.919   | * $3.501e^{-05}$ | 8.4995     | * $1.452e^{-4}$ | 2.617                    | Statistically significant difference |
|        | (M)SCA          | 8.9669   | * $2.927e^{-3}$  | 5.6693     | * $0.01087$     | 2.496                    | Statistically significant difference |
|        | (M)PCA          | 26.071   | * $1.468e^{-3}$  | 5.3813     | * $0.03284$     | 2.742                    | Statistically significant difference |

\* As the figures for the interpretation of effect size as suggested by Beeson & Robson for aphasia interventions, are not specific to CPT, the effect sizes obtained are therefore reported but lack a statistically theoretical interpretation.

The statistically significant improvement in the Paarth's ability to support conversation for the Chandrak following CPT with a shift in the mean from 1 to 3.25 indicates that the communication partner was observed to successfully support communication for the PWA approximately 50-75% of the time following CPT-In as compared to approximately 25% prior to CPT-In. A significant difference (t: 26.071; p: 0.001468) in Chandrak's participation in conversation is present in the follow up sessions as well a significant trend (t: 5.3813; p: 0.03284). This statistically significant improvement in Chandrak's participation in conversation with his trained son, with a shift in the mean from 1.11 to 3.22 indicates that the Chandrak was observed to make successful attempts to engage, understand and communicate a message approximately 50-75% of the time during the conversations following CPT-In as compared to approximately 25% of the time prior to CPT-In.



**Figure 10.4 Performance of Dyad 2 on (M)SCA (items 1-4) and (M)PCA (items 5-7)) across sessions**

### 10.2.2 Chandrak and Paarth changes in communicative adjustment

Analysis across the baseline and follow-up conversations revealed changes in communicative adjustments made by both interlocutors. Table 10.8 and 10.9 present the types of adjustment seen by interlocutor, specified by the phase of the study.

**Table 10.8 Summary of strategies for adjustment used across baseline and follow up sessions for Paarth, dyad 2**

| Type of adjustment | Adjustment Strategy   | Baseline conversations (CP) | Follow-up conversations (CP) |
|--------------------|-----------------------|-----------------------------|------------------------------|
| Accommodation      | Convergence           | B1, B2                      | FU1, FU2, FU3                |
|                    | Discourse Management  | B1, B2                      | FU1, FU2, FU3                |
|                    | Interpretability      | B1, B2, B3                  | FU1, FU2, FU3                |
| Nonaccommodation   | Maintenance           | B1, B2, B3                  | FU2                          |
|                    | Divergence            |                             | -                            |
|                    | Discourse Management  | B1, B2, B3                  | FU 1, FU 2, FU 3             |
|                    | Interpersonal Control | B1, B2, B3                  | FU 1, FU 2, FU 3             |
|                    | Interpretability      | B 1                         | -                            |

**Table 10.9 Summary of strategies for adjustment used across baseline and follow up sessions for Chandrak, dyad 2**

| Type of adjustment           | Adjustment Strategy         | Baseline conversations (PWA) | Follow-up conversations (PWA) |
|------------------------------|-----------------------------|------------------------------|-------------------------------|
| Accommodation                | Convergence                 | B 2, B3,                     | FU1, FU2, FU3                 |
|                              | Discourse Management        | B2,                          | FU1, FU2, FU3                 |
|                              | Interpretability            | B1, B2                       | FU1, FU2, FU3                 |
| Constrained Accommodation    | Convergence                 | B1, B2, B3                   | FU1, FU2, FU3                 |
|                              | Discourse Management        | B1, B2, B3                   | FU3                           |
|                              | Interpretability            | B1, B2, B3                   | FU1, FU2, FU3                 |
| Unavoidable Nonaccommodation | Maintenance                 | B1, B2, B3                   | FU1, FU2                      |
|                              | Divergence                  | B1, B2, B3                   | -                             |
|                              | Discourse Management        | B1, B2, B3                   | FU1, FU2                      |
|                              | Interpretability Strategies | B1, B2, B3                   | FU2, FU3                      |
| Avoidant Communication       | Discourse management        | B3                           | FU2                           |

#### 10.2.2.1 Chandrak and Paarth before conversation partner training

In the sessions prior to CPT, Paarth is observed to maintain his verbal style of conversation throughout with no adjustments made to accommodate Chandrak's expressive language abilities. Chandrak, who is constrained in his attempt to converge to the preferred verbal style of communication, maintains his use of speech, unintelligible to the listener, throughout. Paarth and Chandrak present as a highly motivated dyad which is apparent in their adherence to the study as well as their willingness to travel a long distance to attend all 6 baseline and follow up sessions.

In extract 10.12, taken from baseline 1, Paarth informs his father that he will be provided with training at NIMHANS, and enquires as to whether he will be able to attend the sessions on his own. Throughout the conversation, Paarth maintain his verbal style of speaking making no adjustment to accommodate his father's expressive abilities. This lack of adjustment is considered nonaccommodative. In some turns, he rephrases or repeats himself as seen in lines 5 and 7 in an apparent attempt to ensure Chandrak has understood his message. However, this adjustment provides little to no support to Chandrak who has difficulties in expressive communication.

Extract 10.12

|   |          |   |
|---|----------|---|
| 3 | Paarth   | ivodo se se training isTaranta ((looks ahead towards the clinician's chair, then shakes head)) (0.2) training kodTare nimage ((shakes head))<br><b>now they are giving this training here. They are giving training for you</b> |
| 4 | Chandrak | ((nods head in acknowledgement of what the CP is saying )) ah   |
| 5 | Paarth   | avaro ninu obane barTira? ((shakes head))<br><b>will you come alone here?</b>   |
| 6 | Chandrak | ah ((nods head in acknowledgement of what the CP is saying ))   |
| 7 | Paarth   | ninu obane banDu ((rotates head towards the left side)) ah hogTiya? ((rotates head towards the right side))<br><b>will you come and go alone?</b>   |
| 8 | Chandrak | (unintelligible utterance) ((slightly raises right wrist off the arm of the chair with fingers curled in together))   |

In line 3, Paarth rephrases his question from Telugu (L1) to Kannada (L2) possibly with the intention of enhancing communication. It could be inferred that Paarth desires to accommodate to his father's changed communication needs but lacks the knowledge and information on how best to support him.

In extract 10.13 Paarth has engaged his father in a test or practice task of writing down a phone number dictated to him. The son in this instance, has placed himself as a 'tester' or 'trainer' for his father which might suggest to the father that he is dependent on the son – therefore analysed as nonaccommodative in terms of discourse management and interpersonal control. Paarth's communicative behaviour may also be categorised as a feature of dependency overaccommodation. Chandrak complies in every turn by writing down the number dictated. The attempts are apparently 'successful' in the written form as Paarth does not correct or comment on the responses. The compliant behaviour demonstrated by Chandrak, could possibly be explained as a result of dependency overaccommodation. As described in chapter 8 (see extract 8.27), Chandrak, who is largely dependent on his son for his communication needs, may assume a role 'inferior' to that of his typically communicating son which may prompt him to comply with the tasks initiated by Paarth. He may also feel dependent on his son to help him in attaining some improvement in verbal communication.

Extract 10.13

|    |          |                                       |
|----|----------|---------------------------------------|
| 73 | Paarth   | nine six                              |
| 74 | Chandrak | (unintelligible utterance) ((writes)) |
| 75 | Paarth   | two zero                              |
| 76 | Chandrak | (unintelligible utterance) ((writes)) |
| 77 | Paarth   | TWO ZERO                              |

Similarly, extract 10.4 recorded in the third baseline is comprised predominantly of test questions, test tasks and practice tasks.

Extract 10.14

|   |          |   |
|---|----------|---|
| 1 | Paarth   | per emme? ((points to PWA with his pen))<br><b>Name?</b>                        |
| 2 | Chandrak | (unintelligible utterance) ((picks up pen and holds it to the sheet of paper))  |
| 3 | Paarth   | nin per emme? ((points to PWA with finger))<br><b>what is your name?</b>        |
| 4 | Chandrak | (unintelligible utterance) ((looks at the CP, holds pen to the sheet of paper)) |

|       |           |  |
|-------|-----------|--|
| (...) |           |  |
| 17    | Paarth    | iDu haTu rupai (( <i>demonstrates on sheet how to write 10, looks at sheet where PWA has written</i> )) haTu<br><b>this is ten rupees. ten</b>             |
| 18    | Chandrak  | (unintelligible utterance) (( <i>writes, looks at sheet where CP has written</i> ))  |
| 19    | Paarth    | (( <i>clicks tongue indicating disapproval</i> )) vonDu (( <i>leans forward to look at what PWA is writing. Demonstrates writing one</i> ))<br><b>One.</b> |
| 20    | Chandrak  | (( <i>writes down one</i> ))   |
| (...) |           |  |
| 97    | Paarth    | aaru (( <i>points out the numeric keywords on the sheets</i> ))<br><b>six</b>  |
| 98    | Chandrak  | ah (( <i>points to written numbers</i> ))  |
| 99    | Paarth    | aaru anu (( <i>points out the numeric keywords on the sheets</i> ))<br><b>say six</b>  |
| 100   | Lingaraja | ah (( <i>points to written numbers</i> ))  |

Writing was used as the task during this interaction. There were no instances of clear information exchange throughout this conversation. Although engaging in test tasks, Paarth used interpretability strategies to facilitate Chandrak’s participation in the nonaccommodative (discourse management and interpersonal control) tasks. In the 69 turns taken by Paarth, approximately 23 instances of accommodative interpretability strategies were observed. In all of these instances, the interpretability strategies were used to facilitate the father’s participation in the task at hand. In line 1, Paarth asks his father what his name is and goes on to make him write it thereafter. In lines 17-20, he corrects the fathers written forms and demonstrates the correct form. Paarth has once again assumed the role as a ‘tester’ or ‘trainer’ for his father. Chandrak again complies in most (approximately 80%) of the turns (but exhibits avoidance communication in a minority of turns (see lines 97-100). The notion of the Chandrak’s dependency on Paarth is also evident during the interview (see interview excerpt 10.3) and extends beyond the communication needs.

*Interview excerpt 10.3 (para 18)*

|        |  |
|--------|--|
| Paarth | <p>“havuDu eega ivaru avarigae stroke aaDarinDa avaru caring, avaru jobs aeyella naavae Tekond maadbaeku. Inno avaru namkondrae aaguDilla, inno jobs sarae mane irae maTae naavae yeDmaelae naavae jobsarae Tekond maadbaeku. Innu yen madak agalla.”</p> <p>“Yes, now for him, since his stroke happened, his care, his jobs, all of that, we ourselves have to take it up and do it. Anymore, he can’t, anymore, jobs all just within the house. Then after we wake up, we ourselves have to take up and do the work. Anymore, he can’t do anything”</p> |
|--------|--|

When asked about the current level of functioning (para 97) during the same interview Chandrak and Paarth reported that “maTadakkae barllila anTae” (*cannot speak it seems*).

A different form of ‘test-question’ is observed as being used during conversation in baseline 2 as seen in extract 10.15. Here Paarth enquires if Chandrak knows which villages they had to travel through to get to NIMHANS (line 38), again a test-question. Chandrak uses accommodative interpretability strategies by way of basic gestures to indicate that he does not know the names of the villages (line 39). He also continues to maintain his use of unintelligible speech possibly in an attempt to converge to the spoken modality (lines 39

and 49). This lack of accommodation in terms of convergence to the verbal modality is unavoidable owing to his aphasia.

*Extract 10.15*

|       |          |  |
|-------|----------|--|
| 38    | Paarth   | ooru? (( <i>shakes head</i> )) yava ooru mele banDiDavu nave belige?<br><b>Villages? Through which villages did we come this morning?</b>  |
| 39    | Chandrak | (Unintelligible utterance) (( <i>turns to look at the CP, shakes hand back and forth with fingers curled</i> ); researcher's interpretation: <i>culturally the hand gesture indicates 'do not know' or 'not able'</i> )) |
| 40    | Paarth   | uTara, sriramhalli, rajankonte (( <i>shakes head counts on fingers</i> ))<br><b>North, sriramhalli, rajankonte</b> (names of villages in the outskirts of Bangalore)   |
| 41    | Chandrak | uh (( <i>shakes head, partially extends right arm with palm facing upwards</i> ))  |
| (...) |          |  |
| 49    | Chandrak | [(Unintelligible utterance)] (( <i>turns to look at the CP, partially raises palm with fingers curled</i> ); researchers interpretation: <i>culturally the hand gesture indicates 'do not know'</i> ))                   |
| 50    | Paarth   | goTilla? (( <i>partially raises right arm and shakes hand with fingers spread out</i> ); researchers interpretation: 'don't know')<br><b>You don't know?</b>   |

In line 40, Paarth, acknowledges his father's response and begins to list out the names of the different village bus-stops one by one. A few turns later, in line 49, Chandrak once again uses a gesture to indicate he 'does not know'. In this instance, Paarth verbalises his interpretation of the gesture to confirm it. By attending to and accepting his father's use of nonverbal- gestural communication, Paarth employs a discourse management strategy to accommodate to his father and in this way maintains the flow of interaction. Further into the conversation, Paarth builds on the topic of the commute to NIMHANS by discussing getting there and the challenges with the commute (extract 10.16). In doing so, Paarth shifts from a test question to engaging in true conversation with his father.

The topic of conversation in extract 10.16 builds on what began as a test question, but moves into a conversation in which genuine enquiry occurs (lines 104-109 in particular). Paarth infers that Chandrak is not confident of traveling by bus on his owns and attempts to address his challenges and explains the route to him. In line 76, Paarth asks his father an open question—why he cannot use the bus, to which the father responds using a gesture indicating 'how', possibly referring to his mobility and/or communication needs. Paarth probes further and enquires if it is owing to his inability to speak.

*Extract 10.16*

|       |          |  |
|-------|----------|--|
| 64    | Paarth   | illi barak (( <i>rotates right hand from right to left</i> )) goTagaTa nimmage bus alli?<br><b>Do you know how to come here by bus?</b>                              |
| 65    | Chandrak | (Unintelligible utterance)   |
| (...) |          |  |
| 76    | Paarth   | yake agala?<br><b>Why is it you cannot?</b>  |
| 77    | Chandrak | (Unintelligible utterance) (( <i>turns hand with palm facing upwards and fingers curled inwards</i> ); researchers interpretation: <i>gesture indicates 'how'</i> )) |
| 78    | Paarth   | ShabD helak agalla<br><b>Because you cannot say words?</b>   |
| 79    | Chandrak | (Unintelligible utterance)   |
| (...) |          |  |

|       |          |  |
|-------|----------|--|
| 92    | Paarth   | [ammanu karkond barTiya ninu?]   |
| 93    | Chandrak | (Unintelligible utterance) (( <i>Indian head nod</i> ))  |
| (...) |          |  |
| 104   | Paarth   | barTiya alla? (( <i>looks at and listens to PWA intently</i> ))<br><b>you will come, yes?</b>  |
| 105   | Chandrak | hm (Unintelligible utterance) (( <i>nods head; looks at CP and points to the sheets of paper placed on the table, turns over the sheets; and then points hand in the direction of the CP</i> ))  |
| 106   | Paarth   | Ah (.) Barkottre hogTiya? (( <i>gestures writing on the sheets of paper and then points ahead into the distance</i> ))<br><b>Ah. If I write and give it you will go?</b>   |
| 107   | Chandrak | hm (unintelligible utterance) (( <i>nods head to say 'yes'</i> ))  |
| 108   | Paarth   | ivaga, (( <i>writes key words</i> )) (0.5) Shriramnalli (area in Bangalore city) to (0.3) majesticu (area in Bangalore city) (( <i>writes key words</i> )) (0.2) bus number goTalla? (( <i>writes key words</i> ))<br><b>Now, Shriramnalli (area in Bangalore city) to majestic (area in Bangalore city), you know the bus number, yeah? ((<i>writes key words</i>))</b> |
| 109   | Chandrak | (( <i>PWA watches CP write; nods head to say 'yes' and in acknowledgement of what the CP is saying</i> ))  |

As the conversation continues, Paarth suggests his mother accompanies Chandrak (line 92). He then confirms with his father if he will attend the sessions in line 104. Chandrak, while maintaining his unintelligible speech, employs accommodative interpretability strategies (line 105) gesturing and touching the sheets placed on the table, perhaps to indicate that if the directions are written down, he will attend. In line 106 it is evident that Paarth has understood his father's message and verbalises his inference to confirm it. He then continues the conversation by accommodating to his father's need based request and employs interpretability and discourse management strategies using written support to explain the route to Chandrak. Paarth's adjustment (see line 108) to incorporate writing in the conversation could also be interpreted as him converging to the possibly preferred style of conversation (as indicated by the PWA himself) thereby also facilitating more effective interaction.

During the conversations recorded in the baseline phase, Paarth was observed to demonstrate accommodative communicative behaviour in approximately 46% of his turns. He was observed to make some adjustments such as switching to their mother tongue and inferring some gestures used by Chandrak. Paarth was also observed to use interpretability strategies such as writing, however this was used in the context of test and practice tasks which are nonaccommodative in nature. His communicative behaviour was nonaccommodative mainly in terms of maintenance of the verbal modality with no support provided to support Chandrak's expression and the increased use of test questions, and practice tasks. Nonaccommodation was observed in 95% of Paarth's turns. Chandrak demonstrated accommodation in approximately 29% of his turns across the baseline conversations. His attempts at accommodation were observed to be constrained in approximately 51% of his turns, and was associated with his aphasia and the reduced support available to participate and contribute to the conversation. Accommodation in Chandrak's turns was observed in terms of interpretability strategies and discourse management strategies used to maintain the feel and flow (Kagan, 1999) of the conversation. He was observed to be unavoidably nonaccommodative in 58% of his turns

of which, were predominantly underaccommodative in nature and were associated with his reduced access to speech as a medium of expression. Other obstructive communicative behaviours such as avoidance communication were observed only in 2% of his total turns taken across all three baseline conversations. These obstructive behaviours in Chandraks turns, were observed to be associated with nonaccommodative discourse management behaviour such as the lack of support to express himself and the use of test questions by his son Paarth.

**Table 10.10 Adjustment observed in the turns of Paarth and Chandrak across the baseline conversations**

|    | Interlocutor | Accommodation | Constrained Accommodation | Nonaccommodation | Unavoidable Nonaccommodation | Avoidance Communication |
|----|--------------|---------------|---------------------------|------------------|------------------------------|-------------------------|
| B1 | Paarth       | 25%           | -                         | 96%              | -                            | -                       |
|    | Chandrak     | 35%           | 42%                       | -                | 74%                          | -                       |
| B2 | Paarth       | 76%           | -                         | 88%              | -                            | -                       |
|    | Chandrak     | 19%           | 50%                       | -                | 77%                          | -                       |
| B3 | Paarth       | 38%           | -                         | 100%             | -                            | -                       |
|    | Chandrak     | 33%           | 62%                       | 9%               | 22%                          | 6%                      |

#### 10.2.2.2 Chandrak and Paarth following conversation partner training

In the sessions following CPT, there was a marked change in the conversations observed. Paarth observably attempted to accommodate to the expressive communication needs of his father by employing discourse management strategies and interpretability strategies in most of his turns. The use of written supports appeared to unintentionally elicit a few instances of accurate sound production. Once aware of Chandrak's ability to produce sound approximations and in some cases accurate sound productions, Paarth appeared to make several attempts to increase verbal output during conversation by encouraging his father to read the keywords out loud in addition to pointing or marking them. At times, therefore, Paarth returned to a role of 'trainer'.

Extract 10.17 demonstrates one instance of a successful interaction that was then disrupted by an instruction to read aloud (lines 32-35). In this extract, Paarth is asking his father if he will be willing to attend a session at NIMHANS on Saturday. He uses clear accommodative interpretability strategies including written keywords to support his father's comprehension as well as expression. He also repeats his question 4 times (lines 17, 19, 21 and 27) while pointing to the keywords to ensure his father has comprehended it. In lines 27-30, Paarth uses discourse management and interpretability strategies to accommodate to Chandraks expressive communication needs. Chandrak partially converges to the nonverbal modality of communication modelled by his son—using nonverbal supports along with verbal output and in this way also employs interpretability and discourse management strategies. In line 32 however, Paarth employs a nonaccommodative discourse management and interpersonal control strategy when he instructs his father to say it out loud— "jorage helu". In this instance, Paarth moves away from his role as communication partner and back into a role of 'trainer'. Chandrak complies with his son's instruction.

#### Extract 10.17

|    |        |  |
|----|--------|--|
| 17 | Paarth | Shanivaramo, haspiTregge barTiya? ((writes keywords down ))<br><b>Will you come to the hospital on Saturday?</b> |
|----|--------|--|



|       |          |  |
|-------|----------|--|
| 18    | Chandrak | (unintelligible utterance)   |
| 19    | Paarth   | ((writes keywords down)) Shanivarah niinu haspiTRe ge barTiya? (( points to written keywords ))<br><b>Will you come to the hospital on Saturday?</b> |
| 20    | Chandrak | (barTare) ((nods head In agreement of what the CP is saying ))<br><b>Will come</b>   |
| 21    | Paarth   | barTiya? ((nods head in acknowledgement of the PWAs response ))<br><b>Will come?</b>   |
| (...) |          |  |
| 27    | Paarth   | Shanivara ninu haspiTRe ge barTiya? ((points to key words as he asks the question out loud))<br><b>Will you come to the hospital on Saturday?</b>    |
| 28    | Chandrak | hm (.) ah ((nods head in acknowledgement of what the CP is saying ))   |
| 29    | Paarth   | illa aThava hovuDu ((points to key words))<br><b>Yes or no?</b>  |
| 30    | Chandrak | (unintelligible utterance) ((points to keyword indicating 'yes'))  |
| 31    | Paarth   | hovuDu ((nods head in agreement with the PWA.))<br><b>yes</b>  |
| 32    | Paarth   | jorage helu. ((nods head))<br><b>said it loudly</b>  |
| 33    | Chandrak | ha ((nods head))   |
| 34    | Paarth   | Jorage<br><b>loudly</b>  |
| 35    | Chandrak | ha-vu-Du ((reading the keyword))<br><b>YES (phonetically produced in Kannada)</b>  |

In extract 10.18, Paarth is ensuring Chandrak will be able to make it to his session on Saturday by bus, despite him not being able to accompany him. He negotiates with his father, involving him in the decision making process about having Prakruthi (daughter in law) accompany him. He uses interpretability and discourse management strategies predominantly, through the use of keywords (e.g., line 76) and pointing (e.g., line 74) with some gestures (e.g., line 78, 80) used occasionally throughout the conversations in all the three follow up evaluations (see also lines 17, 19 and 27 of extract 10.17).

*Extract 10.18*

|    |          |   |
|----|----------|---|
| 74 | Paarth   | ninage businalli haspiTRege barak goTa alva? ((using generic gestures and gross pointing to support statement))<br><b>you know how to come to hospital by bus, yes?</b> |
| 75 | Chandrak | <i>appears to mentally read the keywords written</i>  |
| 76 | Paarth   | ninage (.) haspiTRege (.) businalli barak goTa? ((points to each written keyword as he reads them))<br><b>you know how to come to hospital by bus, yes?</b>             |
| 77 | Chandrak | [(unintelligible utterance)] ((points to keyword indicating 'no')) (unintelligible utterance)   |
| 78 | Paarth   | illa (.) joTe nirTara avaru ((hand gesture indicates 'no'))<br><b>no? She will be alongside you.</b>  |
| 79 | Chandrak | ((nods head in acknowledgement of what the CP is saying)) (unintelligible utterance)  |
| 80 | Paarth   | joTe nirTara gayaTri avaru ((hand gesture indicates 'will be there'))<br><b>Gayathri herself, will remain with you</b>  |

In the final follow up evaluation there were again several instances of practice tasks (extract 10.19), more than that observed in the first two follow up evaluations. In this follow up, Chandrak uses more verbal output and Paarth appears to take these instances as ‘training’ opportunities. The result is a greater proportion of practice tasks and therefore an increase in nonaccommodation in terms of interpersonal control and discourse. In line 13, Paarth is trying to ascertain where Chandrak and his wife will be going.

*Extract 10.19*

|       |          |  |
|-------|----------|--|
| 11    | Paarth   | ((points to the keywords)) DevasTana (.) ChurChu (.)<br><b>Temple, Church</b>  |
| 12    | Chandrak | ChurChu ((points to the keywords))<br><b>Church</b>  |
| 13    | Paarth   | masiDi (.) ((points to the keywords))<br><b>Mosque</b>   |
| 14    | Chandrak | (masaDi) ((points to the keywords))<br><b>Mosque</b>   |
| (...) |          |  |
| 22    | Paarth   | ((rearranges sheets of paper and puts them neatly together)) (0.9) (ChurChigae (0.2) yeStu gantege (0.2) hogTiya? ((writes keywords down))<br><b>What time will you be going?</b>            |
| 23    | Paarth   | vonDu gante? (.) haTu gante? (.) hanuru gante? ((writes keywords down))<br>ChurChige niinu: (.) ((points to the keywords))<br><b>1 o'clock, 10 o'clock, 12 o'clock? You going to Church?</b> |
| 24    | Chandrak | ha ((nods head, looks at the keywords))  |
| 25    | Paarth   | yava ((points to the keywords)) taimings ge hogTiya? yava gantege hogTiya?<br>[ombaTu gante? haTu gante?] ((points to the keywords))<br><b>what time will you go? at what time?</b>          |
| 26    | Chandrak | [(unintelligible utterance)] ((points to the keyword indicating 'ten' ))   |
| 27    | Paarth   | ((looks at the PWA)) yen iDa? ((points to the keywords))<br><b>What is this?</b>   |
| 28    | Chandrak | (unintelligible utterance) ((points to the keywords he attempts to read out aloud))  |
| 29    | Paarth   | haTu ((points to the keywords))<br><b>ten.</b>   |

Following a successful interaction where accommodation was observed from both Chandrak and his son in terms of convergence (to a common modality of communication), interpretability (use of non-verbal supports to facilitate comprehension) and discourse management strategies (non-verbal support to facilitate PWAs expression), a practice task was then introduced (lines 27-29).

In extract 10.20, Paarth is observed to clarify, expressing he does not understand his father’s message. It must be noted that his wording in line 82 indicates that he shares responsibility for being unable to comprehend Chandrak’s gestures. However, Paarth maintains his verbal style in this instance without offering any additional support to help Chandrak’s expression. In line 84, he places the responsibility on his father to clarify his own message by asking him to “tell correctly”. Paarth is considered to be nonaccommodating in terms of discourse management in this instance. Chandrak on two occasions across the sessions, explicitly indicates how written support will facilitate him to go about daily chores, particularly— making shopping lists. This is demonstrated in line 85, where he uses a gesture to assert that the Paarth should write. Considering the suggestion

made by Simmons-Mackie (2018), Chandrak’s gestural indication of ‘writing’ may have also been an attempt to model the use of supportive strategies to encourage Paarth to engage with its use to support their interaction.

*Extract 10.20*

|    |          |   |
|----|----------|---|
| 82 | Paarth   | (0.3) ah anDre, arT (( <i>partially raises forearm with hand towards his head and shakes it at his wrist</i> )) agalilla nange<br><b>Meaning? I was unable to understand.</b> |
| 83 | Chandrak | hm (( <i>nods head</i> ))   |
| 84 | Paarth   | yena correct aage helu<br><b>what? Tell correctly.</b>  |
| 85 | Chandrak | (unintelligible utterance) (( <i>partially raises forearm and holds index finger and thumb together and moves it together as though writing</i> ))                            |
| 86 | Paarth   | baruda kottre (( <i>holds pen in right hand and moves it mimicking writing</i> ))<br><b>if we write and give you?</b>   |
| 87 | Chandrak | ha (( <i>nods head to say ‘yes’</i> ))  |

Following conversation partner training, on average, Paarth was observed to be accommodative in 96% of his turns. He was observed to be nonaccommodative in 34% of his turns mainly observed in the form of discourse management and interpersonal control strategies. Chandrak was observed to be accommodative in 80% of his turns and his accommodation was observed to be constrained in 23% of his turns. He was observed to exhibit unavoidable nonaccommodation in 37% of his turns of which was mostly associated with instances of underaccommodation. At the six weeks follow up session, Chandrak’s communicative behaviours were facilitative in 100% of his turns and obstructive in 8% of his turns all of which were unavoidable nonaccommodation. Table 10.9 summarises the breakdown of the facilitative and obstructive adjustments observed in the conversations recorded during the follow up phase.

**Table 10.11 Adjustment observed in the turns of Paarth and Chandrak in the conversations following CPT**

|         |          | Accommod-<br>ation | Constrained<br>Ac | Nonaccommoda-<br>tion | Unavoidable<br>Ac | Avoidance<br>Communicati-<br>on |
|---------|----------|--------------------|-------------------|-----------------------|-------------------|---------------------------------|
| FU<br>1 | Paarth   | 98%                | -                 | 24%                   | -                 | -                               |
|         | Chandrak | 74%                | 36%               | -                     | 26%               | 10%                             |
| FU<br>2 | Paarth   | 90%                | -                 | 19%                   | -                 | -                               |
|         | Chandrak | 70%                | 20%               | -                     | 25%               | -                               |
| FU<br>3 | Paarth   | 98%                | -                 | 47%                   | -                 | -                               |
|         | Chandrak | 100%               | 12%               | -                     | 8%                | -                               |

**10.2.3 Summary of dyad 2**

Statistical analysis of the conversational scores based on the Kagan scales also indicated a significant improvement in the (M)PCA and the overall communication scores. Table 10.12 summarises the changes in adjustment observed across the baseline and follow up sessions for dyad 2.

**Table 10.12 Summary of the adjustment observed in the conversations between Paarth and Chandrak across the baseline and follow up evaluations**

|          | Nature of Adjustment | Type of Adjustment      | B1     | B2  | B3   | FU 1 | FU 2 | FU 3 |
|----------|----------------------|-------------------------|--------|-----|------|------|------|------|
| Paarth   | Facilitative         | Accommodation           | 25%    | 76% | 38%  | 98%  | 90%  | 98%  |
|          | Obstructive          | Nonaccommodation        | 96%    | 88% | 100% | 24%  | 19%  | 47%  |
| Chandrak | Facilitative         | Accommodation           | 35%    | 19% | 33%  | 74%  | 70%  | 100% |
|          |                      | Constrained Ac          | 42.30% | 50% | 62%  | 36%  | 20%  | 12%  |
|          | Obstructive          | Unavoidable Ac          | 74%    | 77% | 22%  | 26%  | 25%  | 8%   |
|          |                      | Nonaccommodation        | -      | -   | 9%   | -    | -    | -    |
|          |                      | Avoidance Communication | -      | -   | 6%   | -    | 10%  | -    |

An overall improvement in the feel and flow of conversation with increased transaction of information was observed in dyad 2 following CPT. While some instances of ‘training’ and ‘practice’ turns were still observed in the follow up conversations, there was increased support offered to Chandrak to engage and express himself. Chandrak himself, demonstrated increased use of facilitative strategies by way of non-verbal gestures, written keywords and pointing to convey his messages. Both Chandrak and Paarth demonstrated improved ability to engage in communication interaction overall and this improvement was also reported by Paarth during the final follow up interview:

*Interview excerpt 10.4 (para 2)*

|        |  |
|--------|--|
| Paarth | <p>firstu aDakinTa, yaava Tara maTadbaeku, yaava Tara avaranna arTa madsbaekanTa goTaglilla. naavu ee TerapaTy class banDu, iDu ((gesture indicates 'writing')) uhh baraeyuDu inDa, avarigae arTamadsbaeku. Aa vonDu TilkondiDrae. aaDarinDanae, swalpa iDu maTadTarae, bariTarae ((gesture indicates 'writing')), aStae.</p> <p><b>First, after this happened, whatever ways we had to speak, in what ways we could understand his communication, we did not know. After we have come to this therapy class, this ((gesture indicates 'writing')) uhh, from using writing, we can make him understand. That one thing we have put to practice. From that itself, now a little he speaks, he writes, ((gesture indicates 'writing')), that is all.</b></p> <p>madam firstu yaenenDa, firstu maTanadvaaga, yaaru yaena arTanae aagalilla. eevaga yaena goTiDaaDrae, kai alli action maadsTarae, bariTarae, ((gesture indicates 'writing')), illa yaenan TorisTarae ((gesture indicates 'shows with hand')), aDarinDa yella find out madabouDu. avaga, naavu Tilkondakkae easy aguTae, maTae avarannu ((points to PWA)) arTamadslikkae easy aagiDae.</p> <p><b>Madam, at first, whenever he would speak, no one could understand anything. Now, whatever he knows, he will use hand gestures, he writes ((gesture indicates 'writing')), if not, whatever it is, he shows us ((gesture indicates 'shows with hand')), And from that, we are able to find out all of it. At that point, what we have learnt to put to use, it becomes easy. Then, it has become easy for him to make us understand.</b></p> |
|--------|--|

An improvement in Paarth’s ability to support his father—Chandrak was observed by an increase the amount of facilitative adjustments in Paarth’s turns from around 46% to approximately 95%. This was also evidenced from the significant improvement measured by (M)SCA scale. A marked improvement in Chandrak’s ability to participate and convey

his messages was also observed by way of an increase in the amount of facilitative adjustment from approximately 28% to around 80% following CPT-In. The number of attempts to accommodate that were constrained by his aphasia also reduced following CPT. A notable reduction in the amount of obstructive communicative behaviours observed in Chandrak's following CPT-In. This was associated with increased access to opportunities for participation and expression for Chandrak resulting from increased supports offered by Paarth following training. The use of trained strategies in conversation was observed to continue to increase with time as evidenced from the 6 week follow up post CPT.

Despite the observed improvement and reports of perceived improvement in the follow up interview, when Chandrak was asked if he was happy that Paarth attended the training, he reported that he was not happy (excerpt 10.5).

*Interview excerpt 10.5 (para 5)*

|                  |  |
|------------------|--|
| Researcher       | aDananTara neev avaru iDakka banDu koskara, nimmagae kuSi iDae, aTava kuSi illa?<br><b>After that, as a result of him coming for this, are you happy or are you not happy?</b> |
| Paarth:          | ((assists writing keywords)) training igae<br><b>For training</b>  |
| <b>Chandrak*</b> | ((points to keyword indicating 'not happy')) (unintelligible effortful speech)   |

On probing further, Chandrak indicated he was unhappy as he was still unable to produce speech (excerpt 10.6). This may be associated with expectations around CP-training to improve 'speech'. These extracts and the resurfacing of nonaccommodative 'training' behaviour in Paarth's turns, underscore the importance of managing expectations of both pWA and their CPs about the purpose of CP-training.

*Interview excerpt 10.6 (para 8)*

|                  |   |
|------------------|---|
| Researcher       | ((writes keywords)) eega kuSi illa alla, baerae reason anTa heliDu. aDakkae yaakae? Tumba sustu aguTae, aTava illi baruDu tumba time aguTae, time illa nimmagae, atava uh yaenu upayoga illa. yaavuDu?<br><b>Now, you are not happy yes, you said there is a different reason. Why is that reason? Is it that you get very tired; or coming here takes up too much time, you don't have the time; or uh you don't find any use. Which is it</b> |
| <b>Chandrak*</b> | ((points to keyword indicating 'there is no use')) (unintelligible effortful speech)  |
| Researcher       | yaenu upayoga illa anTa?<br><b>You find there is no use is it?</b>  |
| Chandrak         | ((nods head to say 'yes'))  |
| Researcher       | ((writes keyword)) yaava Tara upayoga? ((writes keyword)) hm uhm yaava Tara upayoga, okay illa?<br><b>What types of use? ((writes keyword)) hm what types of use are not okay?</b>  |
| Chandrak         | (unintelligible effortful speech) ah ((nods head to say 'yes'))   |
| Researcher       | maaTu innu baralilla, Daihika sTITiyu munChaeDaagae I, aTava baerae reason, aTava sambaSanaegae upayliDae, kuShiDagiDae. yaavuDu?<br><b>Speech is still yet to come; physical condition is like what it used to be; or a different reason.</b>  |
| <b>Chandrak*</b> | ((points to keyword indicating 'speech production has still not r'covered')) (unintelligible effortful speech)  |
| Researcher       | maaTu innu baralilla?<br><b>Speech has still not come?</b>  |
| Chandrak         | ((nods head to 'ay 'yes'))  |

### 10.3 Dyad 3

Dyad 3 comprises of Chaitali, a 66 year old lady with acute severe global aphasia (AQ = 1.1) and her husband Pavmani. Chaitali was still an inpatient when she first participated in the baseline sessions for this study. Her discharge from hospital took place following the second baseline evaluation and prior to the training.

#### 10.3.1 Chaitali and Pavmani results from (M)SCA and (M)PCA

No statistically significant change was observed for dyad 3 following CPT-In. As seen in table 10.13, results of the WEST TREND indicate a significant improvement (t: 2.8802; p: 0.02805) in the overall communicative performance of the dyad. However, a statistically significant impact may be said to be present only when significant results are indicated by both the WEST-ROC and the WEST-TREND (Howard et al., 2015).

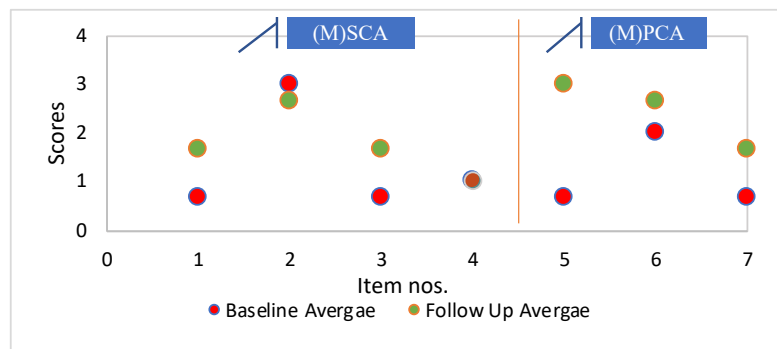


Figure 10.5 Performance of Dyad 3 on (M)SCA (–tems 1 - 4) and (M)PCA (items 5 – 7) scores across baseline and follow up

Table 10.13 (M)SCA and (M)PCA: one-sample t-tests carried out with 95% CI and  $\alpha=0.05$

| Dyad   | Measure         | WEST-ROC |         | WEST-TREND |                 | Effect Size $d_{BS}$ | Interpretation                          |
|--------|-----------------|----------|---------|------------|-----------------|----------------------|---|
|        |                 | t-score  | p-value | t-score    | p-value         |                      |   |
| Dyad 3 | (M)SCA + (M)PCA | -0.68472 | 0.5191  | 2.8802     | <b>*0.02805</b> | 1.763                | No statistically significant difference |
|        | (M)SCA          | 0.30151  | 0.7827  | 1.2978     | 0.2851          | 1.443                | No statistically significant difference |
|        | (M)PCA          | -0.72627 | 0.5432  | 4.509      | <b>*0.04583</b> | 1.922                | No statistically significant difference |

The upward trend in dyad 3 may be associated with the borderline significant (t: 4.509; p: 0.04583) upward trend in improvement observed in the measure of the PWAs participation in conversation as measured by the (M)PCA. This statistically significant improvement in Chaitali's participation in conversation with her trained husband, with a shift in the mean from 1.11 to 2.44 indicates that the Chaitali was observed to make successful attempts to participate and engage in meaningful exchange of information communication almost 50% of the time during the conversation following CPT-In as compared to 25% of the time prior to the intervention. It could be suggested that as Chaitali was in the acute stage, improvement in her communication scores could also be associated with some degree of spontaneous recovery.

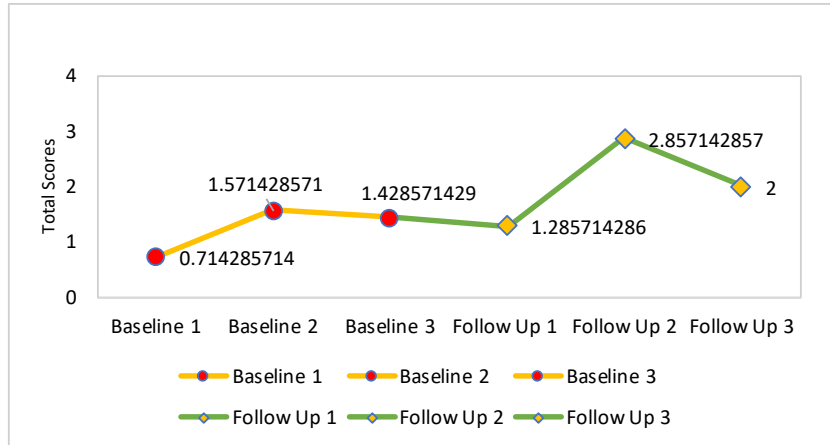


Figure 10.6 Performance of Dyad 3 on (M)SCA and (M)PCA across sessions

### 10.3.2 Chaitali and Pavmani changes in communicative adjustment

Analysis across the baseline and follow-up conversations revealed changes in communicative adjustments made by both interlocutors. Table 10.14 and 10.15 present the types of adjustment seen by interlocutor, specified by the phase of the study.

Table 10.14 Summary of strategies for adjustment used across baseline and follow up sessions for Pavmani (dyad 3)

| Type of adjustment      | Adjustment Strategy   | Displayed by CP in baseline session | Displayed by CP in follow-up session |
|-------------------------|-----------------------|-------------------------------------|--------------------------------------|
| Accommodation           | Convergence           | B3                                  | FU1, FU2                             |
|                         | Discourse Management  | B3                                  | FU1, FU2, FU3                        |
|                         | Interpretability      | B1, B2, B3                          | FU1, FU2, FU3                        |
|                         | Emotional Expression  | -                                   | FU1, FU3                             |
| Reluctant Accommodation | Discourse Management  | -                                   | B 1, B 2, B 3, FU 1                  |
| Nonaccommodation        | Maintenance           | B1, B2, B3                          | FU1, FU3                             |
|                         | Divergence            | B3                                  | -                                    |
|                         | Discourse Management  | B1, B2, B3                          | FU1, FU2, FU3                        |
|                         | Interpersonal Control | B1, B2, B3                          | FU1, FU2, FU3                        |

**Table 10.15 Summary of strategies for adjustment used across baseline and follow up sessions for Chaitali (dyad 3)**

| Type of adjustment           | Adjustment Strategy  | Displayed by PWA in baseline session | Displayed by PWA in follow-up session |
|------------------------------|----------------------|--------------------------------------|---------------------------------------|
| Accommodation                | Convergence          | B3                                   | FU1, FU2, FU3                         |
|                              | Discourse Management | -                                    | FU1, FU2, FU3                         |
|                              | Interpretability     | -                                    | FU 1                                  |
|                              | Emotional Expression | B 1                                  | -                                     |
| Constrained Accommodation    | Convergence          | B1, B3                               | FU1, FU2, FU3                         |
|                              | Discourse Management | B1, B2, B3                           | FU1, FU2, FU3                         |
|                              | Interpretability     | B1, B2, B3                           | FU1, FU2, FU3                         |
|                              | Emotional Expression | B1, B2                               | -                                     |
| Reluctant Accommodation      | Discourse Management | B1, B2, B3                           | FU1                                   |
| Unavoidable Nonaccommodation | Maintenance          | B1, B2, B3                           | FU1, FU2                              |
|                              | Divergence           | B1, B2                               | -                                     |
|                              | Discourse Management | B3                                   | -                                     |
| Avoidant Communication       | Maintenance          | -                                    | FU3                                   |
|                              | Discourse management | B1, B3                               | -                                     |

#### 10.3.2.1 *Chaitali and Pavmani before conversation partner training*

Pavmani appears motivated and has developed a set of gestures that he attempts to ‘teach’ Chaitali to use to communicate her needs to him. While Pavmani’s intention may be to facilitate discourse in future interactions through establishing a ‘new way’ of communicating, he assumes the role of a ‘trainer’ in the interaction. In most of the sessions, their conversations are hence made up of him trying to ‘teach’ Chaitali what these gestures mean and when she could use them. The pitch used by Pavmani during his communication interactions with Chaitali seems patronizing to a third-party listener such as the researcher. This may be also be perceived by Chaitali as overaccommodation which may explain the subsequent instances of her avoiding communication or reluctantly accommodating to him. Baker and colleagues (2015) describe how such overaccommodative behaviour associated with stereotypic assumptions of care receivers (such as people with disabilities) can be perceived as patronising and has resulted in reduced engagement. It could be assumed that Chaitali perceives Pavmani’s overaccommodative behaviour as patronizing. This overaccommodation is noticeable in the baselines and persisted across the follow up sessions. The observed overaccommodation may be associated with the tendency to view Chaitali as being less competent owing to her aphasia. This is evidenced in reports from her husband during the interview (excerpt 10.7) that suggest he only communicates with her based on her need and doesn’t engage much in conversation that extends beyond need-based interactions.

#### *Interview excerpt 10.7*

|         |   |
|---------|---|
| Pavmani | “no she is understanding, only few things I will ask her not more than that. Uh you want to drink milk means, sometimes like she will show uh like this ((gestures, head nod indicating no)) otherwise she will show like this ((gestures, head nod indicating yes)). I will ask you want to drink milk?, she will do like this ((gestures, head nod indicating yes)), then I will understand she will like to drink ((gestures-thumb to mouth with fingers curled in indicating : drink)) milk. food, ((gestures- hand to mouth to indicate eating)) |
|---------|---|



|  |   |
|--|---|
|  | regarding oota madTiya aaDrae, sometimes not now, ((gesture head nod indicating no)) she will show. then after half an hour, hungry? ((gestures hand to mouth and uses. Ahead nod to ask : want food?)), haa aa ((gestures head nod indicating yes)) like this she will show, signing, signing language, she shows that." |
|--|---|

Extract 10.21 taken from baseline 1, demonstrates how Pavmani invites and 'trains' Chaitali in the use of specific gestures. In line 21 Pavmani explicitly states 'you are not able to speak now'). Chaitali appears to reluctantly accommodate to him by acknowledging his input with a head nod to maintain the flow of the conversation (line 22).

Extract 10.21

|    |          |   |
|----|----------|---|
| 21 | Pavmani  | ninage ((places hand on the PWAs arm)) maTu ((points to his mouth)) baralva ((shakes head)) ivga<br><b>you are not able to speak now yeah,</b>                                    |
| 22 | Chaitali | ((nods head in acknowledgement of what the CP is saying ))  |
| 23 | Pavmani  | nange ((points to self)) yenaDru nin helbekaTa ninu yen beku? ((points to self, using both hand))<br><b>if you want to tell me something, what do you need to do?</b>             |
| 24 | Pavmani  | ((taps PWAs arm to get her attention)) kari beka hinge ((raises hand with palm facing the PWA and folds and unfolds his fingers repeatedly))<br><b>You must call me like this</b> |
| 25 | Chaitali | ((looks at CP and then looks away))   |
| 26 | Pavmani  | kariyaDa goTa iDe? ((raises hand with palm facing the PWA and folds and unfolds his fingers repeatedly))<br><b>do you know this is how to call?</b>                               |
| 27 | Pavmani  | iDu anDre yenu? ((raises hand with palm facing the PWA and folds and unfolds his fingers repeatedly))<br><b>what does this mean?</b>  |
| 28 | Chaitali | ((nods head in acknowledgement of what the CP is saying ))  |
| 29 | Pavmani  | kariyuDu ((raises hand with palm facing the PWA and folds and unfolds his fingers repeatedly))<br><b>this is—calling.</b>   |

In line 25 however, she looks away in an instance of avoidance communication possibly resulting from the nonaccommodative discourse management and interpersonal control behaviours demonstrated by Pavmani in lines 23 and 24. In addition, the lack of support provided by Pavmani in line 27, restricts Chaitali's ability to express herself resulting in an instance of unavoidable nonaccommodation in line 28. Pavmani's communicative behaviour in this interaction is therefore non-accommodative in terms of maintenance, discourse management and interpersonal control behaviours.

In extract 10.22 Pavmani adjusts his communication by posing yes-no questions so as to reduce the expressive load placed on Chaitali. She symmetrically accommodates with her use of head movements to convey her responses.

Extract 10.22

|     |          |  |
|-----|----------|--|
| 133 | Pavmani  | hm ((Indian head nod)) (.) parvag ilva ivaga yezmanru? ((nods head to say 'is th't right'))<br><b>hm, no problems now with your husband?</b> |
| 134 | Chaitali | ((Indian head nod, smiles))  |

|       |          |   |
|-------|----------|---|
| 135   | Pavmani  | hm (( <i>Indian head nod</i> )) (0.2) moDalun Eketrovarike avaru? (( <i>looks kenly at PWA with widened eyes and a half smile</i> ))<br><b>previously, he was troublesome, was he?</b>  |
| 136   | Chaitali | (( <i>stares at PWA with a half-smile</i> ))  |
| 137   | Pavmani  | (hhh) (( <i>looks at PWA and laughs</i> ))  |
| 138   | Chaitali | (( <i>laughs and then looks away laughing; sits up straight and adjusts self</i> ))   |
| (...) |          |   |
| 144   | Chaitali | [ah] (.) ha haa (( <i>looks at CP, point to ears, extends left arm backwards, over her shoulder to point towards the door; RI: possibly indicating researcher was coming back in</i> )) |

Pavmani jokes about him being a nuisance (line 133 and 135). His adjustment made through the introduction of humour is accommodative in terms of discourse management as it enhances Chaitali’s participation in the conversation by introducing an apparent light-hearted element. The use of humour to create a positive mood in this instance is also accommodative in terms of emotional expression as earlier in the conversation she appears upset. The positive effect of humour on conversational interaction is further evidenced a few turns later (line 144) where the first instance of Chaitali initiating conversation in this interaction is observed. She uses gestures to indicate she has heard a sound from behind her and points to indicate someone may have come in. Her use of gesture can be considered an accommodative interpretability strategy.

Extract 23 taken from baseline 1, demonstrates an instance wherein Pavmani explicitly invites Chaitali to take the conversational floor (line 53). With this utterance, he provides her with no support to express herself. This elicits a negative response from Chaitali—she unavoidably adjusts her communication behavior (line 54) in a nonaccommodative manner employing strategies for emotional expression. Here emotional expression is a consequence of Pavmani asking her to express herself in the context of her communication difficulties. This instance serves as an example of how nonaccommodative adjustments in conversation may immediately result in negative communicative reactions. Recurrent negative experiences during communication interaction associated with nonaccommodation might result in long-term consequences for participation in communication as well as for mood, sense of self and one’s own perceived level of competence (Gasiorek, 2016).

*Extract 10.23*

|    |          |   |
|----|----------|---|
| 53 | Pavmani  | yenaDru (( <i>taps PWAs arm</i> )) helu. Kelu (( <i>points to himself</i> )) nanage question kelu<br><b>say something, ask, ask me a question</b> |
| 54 | Chaitali | (( <i>looks at CP in acknowledgement of what he is saying; inhales and buries head in arms</i> ))   |

In the third baseline evaluation, Pavmani was observed to engage with props initially for test-task based turns (extract 10.24) which are nonaccommodative in terms of discourse management and interpersonal control and deviate from the purpose of engaging in a meaningful and interactive two-way conversation. Chaitali complies to the task in this instance by pointing to the keywords as re-uested - accommodative in terms of convergence to the task. Chaitali’s compliance to the test-tasks maybe associated with a feeling of dependence or incompetence associated with her aphasia and the task introduced by her husband. This consideration is made based on the literature that

suggests that nonaccommodative behaviours that are patronizing may result in a the receiver believing themselves to be less competent (Gasiorek, 2016).

*Extract 10.24*

|       |          |   |
|-------|----------|---|
| 3     | Prakash  | niDE barTaiDe nanage ((yawns)) (0.3) manikodla? inonD swalpa manikond hoganna? (...)  |
| (...) |          |   |
| 5     | Pavmani  | (0.12) ((taps sheet of paper in front of them; pulls sheet closer to himself and writes)) nimma ooru yavaDu<br><b>Which one is your hometown?</b>                 |
| 6     | Chaitali | ah  |
| 7     | Pavmani  | ((writes keywords)) (0.3) yavuDa iDaralli nimma ooru? ((points to listed keywords provided as response options))<br><b>From these, which one is our hometown?</b> |
| 8     | Chaitali | ah ah ((slides index finger over keywords, points to specific keyword ))  |

This pattern of interaction extends for 27 turns. Pavmani also speaks in a patronising manner both in terms of tone (slow paced and changing intonation—‘elder-speak’). In line 37 of extract 10.25, he informs Chaitali that he will mark all her correct responses. He provides classroom-like incentives such as the use of a ‘marks’ (see lines 37-39) to grade Chaitali’s performance in the tasks introduced during the interaction.

*Extract 10.25*

|    |           |  |
|----|-----------|--|
| 34 | Pavmani   | voDuDu yella ((moves hand between the sheet of paper and his face, Indian head nod193ura Th agaTa? voDTiya yella? Paper yella voDTiya ((Indian head nod193ura Th agaTa?<br><b>Can you understand all that you read? You read the paper and all, can you understand it?</b> |
| 35 | Chaitali  | hm ((nods head in acknowledgement of what the CP is saying, possibly ind’cat’ng ‘yes’))  |
| 36 | P193ura i | agaTa:?.) hm<br><b>you can?</b>  |
| 37 | Pavmani   | yella tick koduDu ((marks her correct responses)) bidTine yella correct heliDia anTa<br><b>I will provide tick marks for all your correct responses</b>  |
| 38 | Pavmani   | doctor nooru ((spreads out all ten fingers and raises hands with palms facing the P’A: RI: ‘te’ on ten’)) nooru mark kodTiya nimmage<br><b>Doctor will give you hundred on hundred marks</b>   |
| 39 | Chaitali  | ((looks at CP and looks away))   |

Pavmani’s communication behaviour is nonaccommodative in terms of discourse management and interpersonal control. The outcome of this nonaccommodation in this interactional sequence is evidenced in by the lack of responses from Chaitali between lines 36 - 38. In line 39, she looks away demonstrating an instance of avoidant communication by way of a nonaccommodative discourse management strategy.

In extract 10.26, Pavmani uses the previously written keywords to engage in a meaningful exchange of information—discussing visiting her hometown once she feels a little better. However, his acceptance of Chaitali’s responses appear subject to agreement with him. In line 53, Chaitali points out one of the options provided, however in the turn following, he points to a different keyword (not chosen by his wife), and in this way directs the

conversation. In these turns, his communication behaviour is accommodative in terms of interpretability and to an extent, discourse management strategies used (using keywords to support PWAs expression). However, his behaviour is nonaccommodative in terms of interpersonal control and discourse management (not accepting his wife’s responses).

*Extract 10.26*

|    |          |   |
|----|----------|---|
| 52 | Pavmani  | yelige? Illiga? ((points to previously written keyword options)) Illiga? ((points to previously written keyword options))<br><b>to where? Here is it?</b> |
| 53 | Chaitali | ah ((attempts to read and point out to chosen option))  |
| 54 | Pavmani  | illige hoganna? ((points to an option that appears to be different from the one the PWA intended))<br><b>let’s go here?</b>                               |
| 55 | Chaitali | ((no specific response, retracts her finger ))  |

During the baseline conversations, Pavmani was observed to demonstrate accommodative behaviours in around 86% of his turns predominantly in terms of interpretability strategies used in unison with nonaccommodative discourse management and interpersonal control strategies. He was nonaccommodative in 92% of his turns. Chaitali was observed to be accommodative in 11% of her turns and demonstrated reluctant accommodation in 53% of her turns. Chaitali’s accommodation was constrained owing to her aphasia in 25% of her turns. She was observed to be nonaccommodative in only 1% of her turns. However, in 55% of her turns she was observed to demonstrate unavoidable nonaccommodation (predominantly underaccommodation) and in 23% of her turns taken she appeared to exhibit avoidance communication. Avoidance communication was often followed by reluctance accommodation and this behaviour was most often associated with patronising behaviour by the communicative partner such as the use of test questions, infantilising tone, advice and practice sequences.

**Table 10.16 Summary of the adjustment observed in the conversations between Pavmani and Chaitali the baseline conversations**

|   | Interlocutor | Accommodation | Constrained Accommodation | Reluctant Accommodation | Nonaccommodation | Unavoidable Accommodation | Avoidance Communication |
|---|--------------|---------------|---------------------------|-------------------------|------------------|---------------------------|-------------------------|
| B | Pavmani      | 98%           | -                         | -                       | 97%              | -                         | -                       |
| 1 | Chaitali     | 5%            | 23%                       | 46%                     | 4%               | 59%                       | 23%                     |
| B | Pavmani      | 76%           | -                         | -                       | 86%              | -                         | -                       |
| 2 | Chaitali     |               | 18%                       | 64%                     | -                | 77%                       | 12%                     |
| B | Pavmani      | 85%           | -                         | -                       | 92%              | -                         | -                       |
| 3 | Chaitali     | 28%           | 34%                       | 49%                     | -                | 30%                       | 34%                     |

**10.3.2.2 Chaitali and Pavmani following conversation partner training**

In the first follow up conversation, Pavmani appears to continue to take the role of ‘trainer’ and remains highly nonaccommodative in terms of interpersonal control. He appears to take charge of the conversation, dominating it and increasingly focusing on speech production. In extract 10.27 an example of explicit instructions to adjust her speech is seen in line 57. Chaitali appears largely compliant with an increase in the amount of accommodation in terms convergence to the tasks observed.

Extract 10.27

|    |          |  |
|----|----------|--|
| 55 | Pavmani  | papa:  |
| 56 | Chaitali | akka pakka   |
| 57 | Pavmani  | hm jorage helu jorage<br><b>hm say it loudly, loudly</b> |
| 58 | Chaitali | ah ah  |

The adjustments made in the conversation appear highly asymmetrical—Chaitali is observed to accommodate to Pavmani to a much greater extent than the other way around. The conversations lack co-construction and continue to have a sense of ‘training’. In extract 10.28 Chaitali used gestures to respond and accommodate to the task-based questions posed by Pavmani (line 72).

Extract 10.28

|    |          |  |
|----|----------|--|
| 71 | Pavmani  | hmm (.) fone fone banTakke aDuku nin yenu helTiya?<br><b>Hm, when the phone rings what will you say?</b>   |
| 72 | Chaitali | ah ((raises left forearm with hand to her ear and lis195ura age195mimicing a phone call))  |
| 73 | Pavmani  | ahh 195ura agemmitates PWAs gesture of raising left forearm with hand to his ear and lis195ura age195mimicing a phone call)) helTiya, ((points to PWA)) fone banTu anTa?<br><b>Ahh like that, you will tell, that there is a phone call?</b> |

Following a series of nonaccommodative turns by Pavmani, Chaitali demonstrates nonaccommodative discourse management behaviour as a function of avoidance communication. After several turns of nonaccommodative interpersonal control and discourse management by Pavmani (see lines 93 and 95 of extract 10.29), she looks away to avoid having to respond to him. Pavmani’s advice to Chaitali in line 91 shows how much of a dominant role he has in their relationship. Pavmani’s dominant behaviour in relation to Chaitali may be premonitory – a function of their relationship—perhaps heightened by the gender component within this cultural context. It is possible however that Chaitali’s acquired disability may have exacerbated this power difference. The presence of a disability appears to play a significant impact on the relationship dynamic. The statements made in line 91 suggest that Chaitali isn’t happy engaging in the task-based activities suggested by Pavmani. He tells her should get ‘angry’ when he asks her to practice speaking at home. He goes on to give her unsolicited advice that it is only by practicing her speaking at home, that she will improve.

Extract 10.29

|    |         |   |
|----|---------|---|
| 91 | Pavmani | £ahh very good ((raises right hand with fist closed and index finger raised, then points towards the PWA while lowering arm)) a ((widens eyes)) Tara practice madabeku neenu. (.) avaga baruTe. (0.2) Illi ((Indian head nod)) doctor aTra kuuTkond yella ((Indian head nod)) madTiya. aDe mane hoDru madu anDre aDe aaa: ((looks away while vocalising /a/)) anTa raig ((raises eyebrows)) bidTiya nanmele (0.2) aah maneDu iTara madabeku neenu ((points towards the PWA)) madabeku neenu (.) avaga ninage BaruTe. nanu practise madisTini alla rek ((partially raises and extends forearm towards the PWA and then flaps roates hand in a backward motion)) bidTiya nimmele<br><b>Ah very good. Must practice like that. Then it will come, you sit and do everything with the doctors. That itself, when you go home, aaa like that you</b> |
|----|---------|---|

|    |          |  |
|----|----------|--|
|    |          | <b>get angry at me. Ah, you must do this at home. You must do it, then only it will come, if I make you practice, you get angry at me</b>  |
| 92 | Chaitali | ((looks at CP in acknowledgement of what he is saying ))   |
| 93 | Pavmani  | yenu raegTiya?<br><b>what, will you get angry?</b>   |
| 94 | Chaitali | ah   |
| 95 | Pavmani  | hm. Hangella raigpadgu. helkottiDu madabeku innu. ((fir196uread nodd in'icates 'you sh'uld not', second in'icates 'yo' should')) (.) tenSin madkolbarDu ((hand gesture in'icates 'you sh'uld not'))<br><b>hm, must not get angry like that. Must do as told. Don't take tension.</b> |
| 96 | Chaitali | ((looks at CP, then looks away)) ah  |

Chaitali however appears to be compliant in most turns but refrains from complying to the tasks introduced by Pavmani in the presence of the researcher (see extract 10.30). This non-compliance could be seen as an attempt to preserve her identity around unfamiliar or less familiar people such as the researcher. Chaitali is also observed to employ interpretability strategies using head movements (line 118) to support her vocalisation, however in most instances, this accommodative adjustment is constrained owing to her aphasia.

*Extract 10.30*

|     |          |   |
|-----|----------|---|
| 114 | Chaitali | kaaa ((hums tune))  |
| 115 | Pavmani  | ((watches PWA admiringly as she hums tune)) very good very good (.) ah hange helu. (.) Helu helu. Sa: ri: ga:<br><b>Very good, very good, yes say it like that, say, say, Sa Ri Ga</b>                          |
| 116 | Chaitali | ((looks at researcher ))  |
| 117 | Pavmani  | ah helu avaru nodabekanTe ((points towards researcher)) Avara kelabekanTe. ((points towards researcher)) Hadu helu vonDu<br><b>ah say, she wants to see it seems. She wants to hear it seems. Sing one song</b> |
| 118 | Chaitali | (0.2) ah ah ((looks at the researcher, Indian head nod))  |

In extract 10.31, taken from the second follow up conversation, Pavmani was observed to use the supportive communication strategies more actively to ask Chaitali about how she felt about her current levels of performance. He accommodates to her expressive communication difficulties by incorporating written supports (lines 26 and 28).

*Extract 10.31*

|    |          |  |
|----|----------|--|
| 26 | Pavmani  | Now you are sleeping correctly or (.) not? ((pointing to the keywords written down))   |
| 27 | Chaitali | ah ((looks at PWA and nods head possibly ind'cat'ng 'yes'))  |
| 28 | Pavmani  | sound sleep? (0.2) Channag niDe madTiya? ((pointing to the keywords written down))<br><b>sound sleep? Are you sleeping well?</b> |
| 29 | Chaitali | ((looks at PWA and then points to keyword ind'cat'ng 'yes', nods head to confirm her r'spo'se 'yes'))                            |

Pavmani's communicative behaviour in this example demonstrates the use of interpretability and discourse management strategies that in turn prompt Chaitali to accommodate to his adjustments in a symmetrical manner. She converges to the nonverbal modality of communication introduced by Pavmani and in this way also accommodates using interpretability strategies. On one occasion, she vocalises and leans forward to look

at the sheet used to support their conversation. This act appears to have been to ensure that the response inferred by Pavmani is correct.

In the final follow up session, Pavmani once again engages in the use of several test and practice task-based sequences. He initially uses the communication supports available to test Chaitali's ability to identify numbers which she demonstrates by pointing to the numbers called out by Pavmani. (lines 29-30 of extract 10.32).

*Extract 10.32*

|    |          |  |
|----|----------|--|
| 29 | Pavmani  | THIRTY THIRTY  |
| 30 | Chaitali | <i>((scans the numbers, then points to specific number and looks at CP for response))</i>  |
| 31 | Pavmani  | ah: <i>((points to the number, Indian head nod))</i> Yella goTagaTe ivaTu <i>((sets calendar aside))</i> parvaagilla <i>((Indian head nod))</i> yella goTagaTe number gimber yella goTagaTae. Parvagilla. Bahala <i>((raises eyebrows, widens eyes; Indian head nod, spreads arms laterally with palms facing the PWA))</i> uSaaragbittiDiya neenu <i>((indicates a thumbs up with both hands))</i> fit ag bittiDiiya <i>((Indian head nod))</i> maaTu <i>((points towards his mouth with finmgers held together))</i> maTra barabeka aSte<br><b>ah. ((points to the number, Indian head nod)) You know everything today. ((sets calendar aside)) There's no problem ((Indian head nod)). You can understand everything, numbers, gimbbers<sup>3</sup> and all. You have become very ((raises eyebrows, widens eyes; Indian head nod, spreads arms laterally with palms facing the PWA)) well, have become fit. Just your speech needs to come. That is all.</b> |

Following this task, Pavmani attempts to reassure Chaitali and praises her performance on the tasks he directed (line 31), suggesting Pavmani's reassumed role as Chaitali's 'communication trainer'. He concludes with 'Just your speech needs to come'. The immediate interaction that follows involves a task focussed on sound production (lines 39-47 of extract 10.33) similar to that observed in the baseline evaluations.

*Extract 10.33*

|       |          |   |
|-------|----------|---|
| 39    | Pavmani  | uhh <i>((nods head))</i> maa  |
| 40    | Chaitali | paa   |
| 41    | Pavmani  | <i>((covers face, yawns))</i> hmm <i>((nods head))</i> maa  |
| (...) |          |   |
| 45    | Pavmani  | [saa: rii: gaa: maa; paa: Da: nii] :saa: <i>((taps hand on lap as he sings tunes))</i>  |
| 46    | Chaitali | [saa: ii: paa: (. ) paa: (0.3) kaa] <i>((looks at PWA and attempts to sing along with him))</i>   |
| 47    | Pavmani  | neenu hakko <i>((taps hand on lap; researchers interpr'tation: 'tap to 'he beat' ))</i> neenu hakko a kai nalli <i>((points to the PWAs hand ))</i> Tal hakko a kai <i>((points to the PWAs hand ))</i><br><b>you keep the pace. You do it with your hands. You keep the 'Taal' (term used for keeping to the beats of the classical notes by tapping one hand to the beat) with your other hand.</b> |

Chaitali was a good singer as reported by Pavmani, "yeah all the ladies circle, they all know her, in the association, she was a good singer." Pavmani appears to attempt to use

<sup>3</sup> Numbers gimbbers— often in the Indian context, a word followed by a rhyming non-word is used in spoken slang.

Chaitali's classical musical talent by suggesting she sing out the classical music notes with the hope of being able to verbally produce the specific sounds. This is evident from a statement made by him during the first follow up evaluation (line 103 from extract 10.34)

Extract 10.34

|     |          |   |
|-----|----------|---|
| 101 | Pavmani  | vonDu hadu helu (( <i>Indian head nod</i> )) nim baruDu nodanna? (( <i>watches PWA admiringly and waits for her to perform</i> ))<br><b>sing one song ((<i>Indian head nod</i>)) see if you can? ((<i>watches PWA admiringly and waits for her to perform</i> ))</b>  |
| 102 | Chaitali | ah: (( <i>hums tune, then turns to look at the CO and smiles</i> ))   |
| 103 | Pavmani  | (( <i>claps hand</i> )) good (( <i>raises right forearm with thumb and index finger held together; researchers interpre'ation' 'super'</i> )) Channag heliDira. aThara practise madTaiDre nimmage (( <i>extends arm and taps PWAs arm gently, raises hand towards his mouth</i> )), nodi illi (( <i>raises hand to his mouth with fingers held together, then extends it forward towards the PWA while spreading fingers</i> )) swaragalu yella banDubidaTe. Swaragalu banDre, (( <i>raises hand to his mouth with fingers held together, then extends it forward towards the PWA while spreading fingers</i> )) maTu banDbidaTe<br><b>((<i>claps hand</i>)) good ((<i>raises right forearm with thumb and index finger held together; researchers interpre'ation' 'super'</i>)) you said it nicely. If you practice like that ((<i>extends arm and taps PWAs arm gently, raises hand towards his mouth</i>)), look here ((<i>raises hand to his mouth with fingers held together, then extends it forward towards the PWA while spreading fingers</i>)) your sounds will all come. If your voice comes, ((<i>raises hand to his mouth with fingers held together, then extends it forward towards the PWA while spreading fingers</i>)) your speech will come.</b> |
| 104 | Chaitali | (( <i>looks at PWA and then looks ahead</i> ))  |

In the sessions following CPT, there is an observable amount of variation in each follow up conversation. Pavmani does not appear to consistently use the strategies taught during conversation with Chaitali. He uses some strategies, specifically partial convergence by incorporating the use of gestures and pointing in his communication which also functions as interpretability strategies for need based communication. Less use of accommodative discourse management strategies such as conversing about topics of interest beyond singing based-tasks, turn-taking and engagement in co-constructed general conversation is noted. Pavmani was observed to be accommodative in around 71% of his turns and nonaccommodative in 62% of his turns. Accommodation in Pavmani's turns was predominantly in terms of interpretability strategies used in unison with nonaccommodative discourse management and interpersonal control strategies. In the second follow up session, Pavmani was also observed to take almost twice the number of turns taken by Chaitali. Chaitali was observed to be accommodative in 74% of her turns although this was mainly in relation to compliance possibly as a feature of dependency overaccommodation. Her accommodation was observed to be constrained in 26% of her turns. Unavoidable nonaccommodation predominantly underaccommodation was observed in approximately 15% of her turns.



**Table 10.17 Summary of the adjustment observed in the conversations between Pavmani and Chaitali across the follow up conversations**

|     |     | Accommodation | Constrained Accommodation | Nonaccommodation | Unavoidable Accommodation | Avoidance Communication |
|-----|-----|---------------|---------------------------|------------------|---------------------------|-------------------------|
| FU1 | CP  | 48%           | -                         | 93%              | -                         | -                       |
|     | PWA | 75%           | 10%                       | -                | 4%                        | -                       |
| FU2 | CP  | 95%           | -                         | 25%              | -                         | -                       |
|     | PWA | 86%           | 29%                       | -                | 21%                       | -                       |
| FU3 | CP  | 72%           | -                         | 68%              | -                         | -                       |
|     | PWA | 63%           | 39%                       | 15%              | 19%                       | 1%                      |

### 10.3.3 Summary of dyad 3

The conversations involving dyad 3 showed limited change in the nature of interaction following exposure to CPT-In (see table 10.18). Statistical analysis of the conversations, based on the (M)SCA and the (M)PCA also demonstrated no significant change in the conversations following CPT-In.

**Table 10.18 Summary of the adjustment observed in the conversations between Pavmani and Chaitali across the baseline and follow up evaluations**

|          |              | Pavmani                 | B1  | B2  | B3  | FU 1 | FU 2 | FU 3 |
|----------|--------------|-------------------------|-----|-----|-----|------|------|------|
| Pavmani  | Facilitative | Accommodation           | 98% | 76% | 85% | 48%  | 95%  | 72%  |
|          | Obstructive  | Nonaccommodation        | 97% | 86% | 92% | 93%  | 25%  | 68%  |
| Chaitali | Facilitative | Accommodation           | 5%  | -   | 28% | 75%  | 86%  | 63%  |
|          |              | Constrained Ac          | 23% | 18% | 34% | 10%  | 29%  | 39%  |
|          |              | Reluctant Ac            | 46% | 64% | 49% | -    | -    | -    |
|          | Obstructive  | Nonaccommodation        | 4%  | -   | -   | -    | -    | 15%  |
|          |              | Unavoidable Ac          | 59% | 77% | 30% | 4%   | 21%  | 19%  |
|          |              | Avoidance Communication | 23% | 12% | 34% | -    | -    | 1%   |

Pavmani was observed to continue to engage in the use of nonaccommodative behaviours such as test questions, training and practice tasks. The increase in the accommodation in Chaitali's turns was associated with increased engagement by complying with the test and practice tasks initiated by Pavmani. A significant reduction in the reluctant accommodation and avoidant communication in Chaitali's turns was however observed during the follow up conversations. This change appeared to be associated with her increased compliance with the tasks introduced by Pavmani, suggesting a strengthened 'communication –rainer - trainee' relationship rather than a 'communication partner' relationship within the dyad. The instances of unavoidable nonaccommodation in Chaitali's turns was also observed to be reduced in the interactions following CPT-In. This was associated with increased use of written keywords and pointing during the interaction which allowed Chaitali increased access to a medium of expression. However, in most instances, the use of written keywords for interaction was in the context of test questions and practice sequences which were nonaccommodative in nature. Accommodative strategies to support comprehension and expression were therefore used as a medium to support engagement in request response sequences which were nonaccommodative in nature. The consequences of recurrent

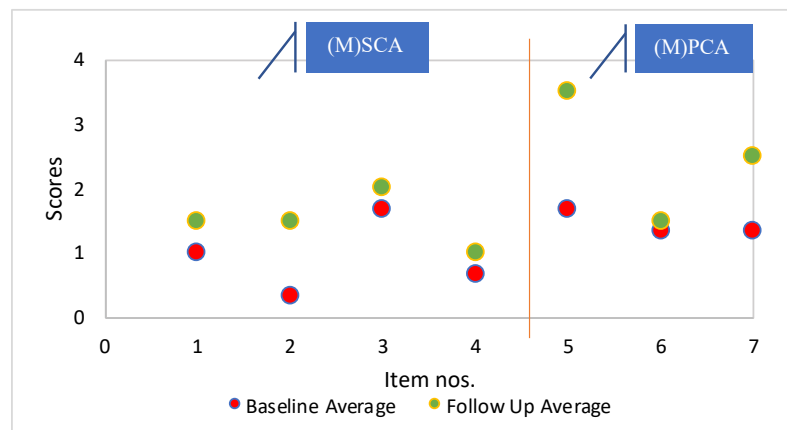
nonaccommodative patronising behaviours such as test-questions and practice-tasks must be considered here, as the behaviours appear to have continued for a prolonged period (evident across all six timepoints, spanning a period of eight and a half weeks).

#### 10.4 Dyad 4

This dyad comprised of Charuhaas, a 75 year old man with acute Wernicke’s aphasia (AQ = 56.1) and pragmatic difficulties associated with right hemisphere damage, and his wife Padmini. His daughter Pritika was also present for the conversations. Charuhaas and Padmini live together with their children and grandchildren in a joint family system. Pritika and Padmini are Charuhaas’s main caregivers and communication partners in this study. He demonstrates some amount of spontaneous recovery over the course of his participation in this study based on observation of his changing language profile. Qualitatively the improvement is apparent in his improved ability to attend to and respond to spoken language that is noticeable in the third baseline and in the follow up sessions.

##### 10.4.1 Charuhaas, Pritika and Padmini results from the (M)SCA and the (M)PCA

The average baseline and follow up performance of dyad 4 on the (M)SCA and the (M)PCA scales is illustrated in figure 10.7.

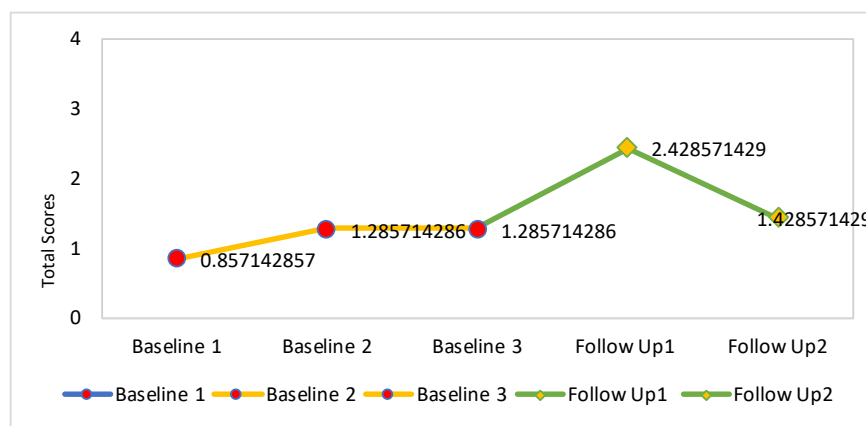


**Figure 10.7 Performance of Dyad 4 on (M)SCA (items 1-4) and (M)PCA (items 5-7) scores across baseline and follow up**

A shift in the mean of the (M)SCA was observed from 0.92 before CPT-In to 1.5 following exposure to CPT-In, demonstrating a very slight improvement that was not statistically significant when analysed using weighted statistics. Similarly a shift in the mean of (M)PCA from 1.44 in the baseline evaluations to 2.5 in the follow up evaluations was observed which was not statistically significant based on the results of the WEST-ROC and the WEST-Trend CPT-In. It could be suggested that as Charuhaas was in the acute stage (3-5 months post onset from baseline to follow up), improvement in his communication scores could also be associated with some amount of spontaneous recovery. No statistically significant change was observed for dyad 4 following CPT-In (see table 10.19). A significant upwards trend in improvement is demonstrated from the results of the WEST-TREND as well from visual analysis of the data in figure 10.8. However, owing to the non-significant results from the WEST-ROC, a significant impact of CPT cannot be concluded for dyad 4.

**Table 10.19 Results from paired t-tests carried out with 95% CI,  $\alpha=0.05$  and power=0.8.**

| Dyad   | Measure         | WEST-ROC |                 | WEST-TREND |                 | Effect Size $d_{BS}$ | Interpretation                          |
|--------|-----------------|----------|-----------------|------------|-----------------|----------------------|---|
|        |                 | t-score  | p-value         | t-score    | p-value         |                      |   |
| Dyad 4 | (M)SCA + (M)PCA | 2.1213   | 0.07814         | 3.0604     | <b>*0.02221</b> | 3.175                | No statistically significant difference |
|        | (M)SCA          | 3.806    | <b>*0.03187</b> | 1.9868     | 0.1411          | 4.042                | No statistically significant difference |
|        | (M)PCA          | 0.58521  | 0.6176          | 3.0509     | 0.09274         | 2.742                | No statistically significant difference |



**Figure 10.8 Performance of Dyad 4 on (M)SCA and (M)PCA across sessions**

#### 10.4.2 Charuhaas, Pritika and Padmini changes in communicative adjustment

Analysis across the baseline and follow-up conversations revealed changes in communicative adjustments made by both interlocutors. Table 10.20 and 10.21 present the types of adjustment seen by interlocutor, specified by the phase of the study.

**Table 10.20 Summary of strategies for adjustment used across baseline and follow up sessions for Pritika and Padmini (dyad 4)**

| Type of adjustment     | Adjustment Strategy   | Displayed by CPs in baseline session | Displayed by CPs in follow-up session |
|------------------------|-----------------------|--------------------------------------|---------------------------------------|
| Accommodation          | Convergence           | B1, B2, B3                           | FU1                                   |
|                        | Discourse Management  | B1, B2, B3                           | FU1, FU2                              |
|                        | Interpretability      | B1, B2, B3                           | FU1, FU2                              |
| Nonaccommodation       | Maintenance           | B1, B2, B3                           | -                                     |
|                        | Divergence            | B1, B2, B3                           | FU1, FU2                              |
|                        | Discourse Management  | B1, B2, B3                           | FU1, FU2                              |
|                        | Interpersonal Control | B1, B2, B3                           | FU1, FU2                              |
|                        | Interpretability      | B1, B2, B3                           | FU1, FU2                              |
|                        | Emotional Expression  | B1, B2                               | FU1, FU2                              |
| Avoidant Communication | Discourse Management  | B1, B3                               | -                                     |

**Table 10.21 Summary of strategies for adjustment used across baseline and follow up sessions for Charuhaas (dyad 4)**

| Type of adjustment           | Adjustment Strategy   | Displayed by PWA in baseline session | Displayed by PWA in follow-up session |
|------------------------------|-----------------------|--------------------------------------|---------------------------------------|
| Accommodation                | Convergence           | B2, B3                               | FU1, FU2                              |
|                              | Discourse Management  | B 2,                                 | FU1, FU2                              |
|                              | Interpretability      | B 3                                  | -                                     |
| Constrained Accommodation    | Convergence           | B1,                                  | FU1                                   |
|                              | Discourse Management  | B2, B3                               | FU1                                   |
|                              | Divergence            | B1, B3                               | FU1                                   |
|                              | Emotional Expression  | B 1                                  | -                                     |
| Unavoidable Nonaccommodation | Maintenance           | B1, B2, B3                           | FU2                                   |
|                              | Divergence            | B1, B2, B3                           | FU1, FU2                              |
|                              | Discourse Management  | B1, B2, B3                           | FU1, FU2                              |
|                              | Interpersonal Control | B2                                   | FU2                                   |
| Avoidant Communication       | Discourse Management  | -                                    | FU 2                                  |

#### 10.4.2.1 Before conversation partner training

In the initial baselines conversations prior to CPT-In, Padmini and Pritika ask Charuhaas several series of test questions which he has difficulty responding to. Both Padmini and Pritika appear to attempt to support his comprehension by emphasising specific words in a sentence. They provide no other communication support. Charuhaas has a tendency to take longer turns filled with information which may be incomprehensible to his interlocutors, in-keeping with his profile of Wernicke's aphasia. He also has left hemianopia which impacts his ability to attend to written supports.

In extract 10.35, taken from the first baseline session, Pritika asks Charuhaas about whom he lives with at home (line 7). The test question is undermining of his competence and the spoken medium used to communicate the message fails to acknowledge and reveal Charuhaas's competence.

#### Extract 10.35

|    |           |  |
|----|-----------|--|
| 7  | Pritika   | [ha] ye Bangalore mae: (.) aap kiske paas reheTe hae? ((curls fingers with left hand partially raised, elbow resting on the table; researchers interpretation: gesture ind'cati'g 'whom'))<br>[yes] in bangalore: (.) who do you stay with? ((curls fingers with left hand partially raised, elbow resting on the table; researchers interpretation: gesture ind'cati'g 'whom')) |
| 9  | Charuhaas | Bangalore  |
| 10 | Pritika   | Ha<br>yes  |
| 11 | Charuhaas | I (0.3) ah   |
| 12 | Pritika   | bangalore mae aapke saTh kon kon reheta hae?<br>who all stay with you in Bangalore?  |
| 13 | Charuhaas | ha   |
| 14 | Pritika   | bangalore mae [aapko Gar] me reheTe hae na?<br>in Bangalore, you live in [your house] yeah?  |
| 15 | Charuhaas | [(iDar)] (0.3) ha yes yes<br>Here, yes yes yes   |

|    |           |  |
|----|-----------|--|
| 16 | Pritika   | To aapke saTh <u>Gar</u> mae kon kon reheTa aap un logo ka <u>naam</u> baTa sakTe hae?<br><b>Then, who all live with you in your house, can you name all those people?</b>   |
| 17 | Charuhaas | ha ha<br><b>yes yes</b>  |
| 18 | Pritika   | kon kon se log reheTe hae?<br><b>Who all are the people who live there?</b>  |
| 19 | Charuhaas | just see (0.8)   |
| 20 | Pritika   | Bangalore mae aapke saTh <u>Gar</u> mae kon kon reheTe hae? (( <i>curls fingers with left hand partially raised, elbow resting on the table; researchers interpretation: gesture ind'cat'ng 'who'</i> )) aapke <u>Gar</u> mae kon kon hae?<br><b>who all stay with you in your house in Bangalore? ((<i>curls fingers with left hand partially raised, elbow resting on the table; researchers interpretation: gesture ind'cat'ng 'who'</i>)) Who all are there in your house?</b>                     |
| 21 | Charuhaas | (0.2) English mae bolega na?<br><b>I can say it in English, yes?</b>   |
| 22 | Pritika   | hinDi mae hi baTa Deeje<br><b>Say it in Hindi itself.</b>  |
| 23 | Padmini   | haa kuCh hi engliSh mae baTaie engliSh mae baTaie<br><b>yes anything, say it in English, say it in English.</b>  |
| 24 | Pritika   | engliSh mae<br><b>In English</b>   |
| 25 | Padmini   | baTaie. engliSh ma baTaie<br><b>say! Say it in English!</b>  |
| 26 | Charuhaas | (0.4) This particular city   |
| 27 | Padmini   | (( <i>nods head</i> ))   |
| 28 | Pritika   | <u>no no</u> . not city. aapke <u>Gar</u> me <u>kon kon</u> reheTe hae? (.) aapke <u>family</u> mae kon kon hae? (( <i>curls fingers with left hand partially raised, elbow resting on the table; researchers interpretation: gesture ind'cat'ng 'who'</i> ))<br><b><u>no no</u>. not city. Who all live in your house? (.) who all are in your family? ((<i>curls fingers with left hand partially raised, elbow resting on the table; researchers interpretation: gesture ind'cat'ng 'who'</i>))</b> |
| 29 | Charuhaas | family mae To, I feel absence of (0.3) something (( <i>nods head</i> )) that misses me too.<br><b>In my family then, I feel the absence of something that misses me too</b>  |

Charuhaas partially diverges in terms of the language used—He uses a mixture of Hindi and English in his responses with more spoken in English. English appears to be his preferred language for communication (see line 21). His use of English language for communication is nonaccommodative particularly to his wife Padmini who has limited knowledge of the English language and generally communicates only in Hindi. For Padmini, this nonaccommodative behaviour may thus be perceived as divergence (social purpose) as well as nonaccommodative in terms of interpretability and discourse management (cognitive purpose). However, this use of English may also be a consequence of his aphasia and hence could be considered to be unavoidable nonaccommodation. Pritika, who has an understanding of English, may perceive his behaviour as nonaccommodative with a social purpose—to highlight his belonging to a prestigious group of English speakers and in his case, English Professors. In line 22, she explicitly requests him to respond in Hindi which is indicative of her linguistic preference. This may be considered as nonaccommodative for two reasons—1) Charuhaas in the immediately preceding turn (line 21) indicates his preference to respond in English; 2) his tendency to use English more might be a

consequence of his aphasia which might further impact his ability to participate constructively in a conversation that is predominantly in Hindi. For the two reasons described above, Pritika’s communicative behaviour in line 22 may be perceived as nonaccommodative in terms of divergence (social purpose) and discourse management (cognitive purpose) respectively.

The content of Charuhaas’s responses do not provide his conversation partners with the information they expect and are therefore also divergent in their content (line 26). He appears to use the content word ‘Bangalore’ to provide him with context but his understanding is inaccurate—he speaks about Bangalore as a city rather than the people who live in his home in Bangalore which was what the question demanded. The response is a characteristic consequence of his fluent aphasia and is considered as unavoidable nonaccommodation by the researcher. However, for untrained conversation partners such as Padmini and Pritika, this communication behaviour may be perceived as nonaccommodation that may lead them to evaluate him negatively. Padmini repeats and rephrases her question multiple times (lines 7, 12, 14, 18, 20, 28) in an attempt to enhance his understanding of it (accommodative interpretability strategies). However, this accommodation is only partial as while he is able to pick out the broader context from it, he misses the purpose of the question. In this conversation the lack of interpretability strategies used support comprehension has resulted in an ‘irrelevant’ response which is a nonaccommodative behaviour in terms of discourse management. By continuing to maintain her verbal style, Pritika exhibits nonaccommodation. Her repeated interruptions to correct Charuhaas’s responses to her questions are also nonaccommodative discourse management behaviours. Charuhaas’s nonaccommodative response prompts Pritika to correct him (line 28), where she stresses, “no no”. She indicates that he has misinterpreted the question and then emphasises the word “Gar” (home) and “family”, an accommodation which appears intended to support his comprehension. Charuhaas appears to use the keyword ‘family’, as context for his response in line 29. His perceived impact on his family relationship and sense of loss is captured in here in line 29 where he states “In my family then, I feel the absence of something that misses me too”.

Several turns later, in line 38 of extract 10.36, Pritika repeatedly asks Charuhaas to ‘name them’ (referring to naming the people whom he lives with—his wife, sons, daughter, grandchildren). Her tone and multiple repetitions are also indicative of a degree of frustration that is apparent in lines 40 and 42 where she buries her head in her arms in apparent frustration or resignation. Her nonverbal behaviour in lines 40 and 42 are nonaccommodative in terms of emotional expression as a consequence of repeated occurrences of ‘communication breakdown’ that is evidenced earlier in the conversation (see extract 10.36 and 10.37) both from the same interaction). Charuhaas, however, does not appear to be perceptive of his divergent responses and continues to diverge in the content of his responses in lines 39, 41 and 43. Pritika’s code-switching to English is accommodative in terms of convergence to Charuhaas’s language of choice.

*Extract 10.36*

|    |           |  |
|----|-----------|--|
| 38 | Pritika   | name them name them name them (.) your sons, your daughter in law, your granddaughters, you should name them |
| 39 | Charuhaas | yes yes ((shakes head in acknowledgement of what the CP is saying)) (.) ahm I am very much obliged (.)       |

|    |           |   |
|----|-----------|---|
| 40 | Pritika   | ((clicks tongue labiodental sound indicating displeasure; throws palms up in the air and buries head in both hands, facial expressions explicitly indicate frustration))  |
| 41 | Charuhaas | to the people-  |
| 42 | Pritika   | ((buries head in both hands, facial expressions explicitly indicate frustration))<br>aapke Gar mae<br><b>((burries head in both hands, facial expressions explicitly indicate frustration))</b><br><b>In your house</b> |
| 43 | Charuhaas | who who (.) who actually  |

In extract 10.37, Padmini asks Charuhaas to identify numbers on the calendar, one of the support materials available. The communication partners engaged with the support materials present for the purpose of test tasks which is nonaccommodative in terms of discourse management and interpersonal control.

*Extract 10.37*

|   |           |   |
|---|-----------|---|
| 2 | Padmini   | [ah (.) ab nineteen?] Nineteen kiDar hae?<br><b>[ah (.) Now nineteen?] where is nineteen?</b>     |
| 3 | Charuhaas | nineteen is just before   |
| 4 | Padmini   | [just] before, [Toh just before kiDar jayenge?]<br><b>[just] Before [then, where will it go?]</b> |
| 5 | Charuhaas | [twenty (.) twenty]   |

In line 2, she asks him to identify the number 19. Charuhaas comprehends the question, but is unable to locate the number and hence responds verbally describing its chronological placement—'nineteen is just before' 'twenty twenty'(lines 3 and 5 respectively). In this way, Charuhaas who appears to have a difficulty in responding to the task in the manner requested, provides an 'explanation' to support his response. This act may be considered partially accommodative in terms of interpretability and interpersonal control as he accedes to the task though not in the desired manner.

In the second baseline (extract 10.38), using emphasis on specific words appears more beneficial, perhaps reflecting his changing language profile. In line 1, Pritika asks Charuhaas about the house (emphasised word—"gar") in which they live in. He responds with some description of it in lines 3, 4, 6. Her emphasis on key word might be supportive of his comprehension needs and could be considered as partially accommodative in terms of interpretability.

*Extract 10.38*

|   |           |   |
|---|-----------|---|
| 1 | Pritika   | aCha papa who <u>gar</u> kaisa lagTa hae jisme aap rehte hae? voh vaha rehena kaisa lagTe hae? ((curls fingers with left hand partially raised, elbow resting on the table; researchers interpretation: gesture indi'ati'g 'how'))<br><b>Fine dad, how do you find the <u>house</u> in which you live in?</b> |
| 2 | Charuhaas | ha (.) just see (.) the way (0.2) the atmosphere of remaining in my residence (.) ah is so much pleasant  |
| 3 | Padmini   | ((stretches, yawns and sinks into chair lazily; appears very tired and restless))   |
| 4 | Pritika   | pleasant ((nods head))  |
| 5 | Charuhaas | peaceful  |
| 6 | Pritika   | peaceful ((nods head))  |

In extract 10.39, Padmini uses a gesture (accommodative interpretability strategy) in line 13 to support Charuhaas's comprehension. He does not look at her or acknowledge the gesture. Charuhaas is able to pick on the content words 'choti babu' (small children) which is apparent in his response in line 15 which he continues in line 18 following an interruption by Pritika (line 16). This strategic use of content words is apparent again in line 21 where he responds to Pritika's question in line 19. Padmini however does not conceal her frustration and walks off during their conversation (line 20 and 22). In line 22 she comments on Charuhaas's speech—"what is he saying" which is nonaccommodative in terms of discourse management and interpersonal control.

Extract 10.39

|    |                                    |   |
|----|------------------------------------|---|
| 13 | Pritika                            | uh Choti Choti babu ((looks ahead, scratches nose)) hae, babies hae ((partially raises hands with palms facing each other but spaced apart; RI: small baby)) Gar mae. Munni (name: relationship-niece) hae, anni (name: relationship-niece) hae. <b>Uh there are small small children, ((looks ahead, scratches nose)) there are babies, ((partially raises hands with palms facing each other but spaced apart; RI: small baby)) in the house, Munni (name: relationship-niece) is there, Anni (name: relationship-niece) is there</b> |
| 14 | Padmini                            | ((appears very tired and restless))   |
| 15 | Charuhaas                          | There are so many (0.2)   |
| 16 | Pritika                            | voh Munni (name: relationship-niece) or anni (name: relationship-niece) aap <b>that Munni and Anni, you</b>   |
| 17 | Padmini                            | ((appears very tired and restless; mumbles to self ))   |
| 18 | Ch206ura a206ura mal smal children |   |
| 19 | Pritika                            | Munni (name: relationship-niece) or anni (name: relationship-niece) aapko kaisi lagTi hae? <b>Munni and anni, how do you feel about them?</b>   |
| 20 | Padmini                            | (( appears very tired and restless, gets up and walks off))   |
| 21 | Charuhaas                          | and and uh (0.2) and they are so much pleasant  |
| 22 | Padmini                            | voh kya bol rahae hae? ((appears very tired and restless; walks off)) <b>what is he saying ((appears very tired and restless; walks off))</b>   |

Similar interaction patterns were observed in the third baseline conversation with no additional adjustments made to support Charuhaas' participation in the conversation.

In the baseline conversations prior to provision of CPT-In, Pritika and Padmini were observed to be accommodative in 40% of their turns and demonstrated nonaccommodative behaviours in 92% of their turns. They were observed to exhibit avoidance communication in 5% of their turns. Charuhaas was observed to be accommodative in 25% of his turns, and his accommodation was observed to be constrained owing to his aphasia in 42% of his turns. Instances of constrained accommodation were observed in his attempts to understand the messages conveyed by his partners by focussing on a spoken keyword to help him understand the context. He demonstrated nonaccommodative behaviour in 3% of his total turns which was associated with divergence from the language (Hindi to English) used by both Pritika and Padmini. Charuhaas also demonstrated unavoidable nonaccommodation in 54% of his turns predominantly in terms of divergence and nonaccommodative discourse management behaviour such as poor turn-taking, deviating from the topic discussed and responding with content that was irrelevant to the context. These nonaccommodative behaviours were all associated with his aphasia.



**Table 10.22 Summary of the adjustment observed in the conversations between Pavmani and Chaitali across the baseline conversations**

|    | Interlocutor | Accommodation | Constrained Accom. | Nonaccommodation | Unavoidable Accom. | Avoidance Communication |
|----|--------------|---------------|--------------------|------------------|--------------------|-------------------------|
| B1 | CPs          | 26%           | -                  | 100%             | -                  | 3%                      |
|    | Charuhaas    | 3%            | 20%                | 3%               | 94%                | -                       |
| B2 | CPs          | 43%           | -                  | 91%              | -                  | 3%                      |
|    | Charuhaas    | 26%           | 65%                | 7%               | 43%                | 2%                      |
| B3 | CPs          | 51%           | -                  | 86%              | -                  | 9%                      |
|    | Charuhaas    | 45%           | 42%                | -                | 26%                | -                       |

**10.4.2.2 Charuhaas, Pritika and Padmini following conversation partner training**

In the follow up conversations, Charuhaas shows increased ability to comprehend the questions posed and respond to them, possibly related to his evolving language profile associated with spontaneous recovery in the acute phase. The conversation partners did not appear to use supportive strategies in their conversations even after training however Charuhaas' improved ability to comprehend and respond is evidenced in extract 10.40 (lines 55-58) and extract 10.41 (specifically lines 54-55).

Extract 10.40 is taken from the first follow up session during which Pritika is discussing going to Tirupathi (a place of pilgrimage for Hindus in India) with Charuhaas and their family. Following much negotiation, Charuhaas informs Pritika that he will go to Tirupathi with the family (line 54). Pritika, on confirming his statement, praises him in a patronising tone such as that used with children. This turn is therefore nonaccommodative in terms of interpersonal control and may be perceived as overaccommodation. Charuhaas responds assertively but shows no indication if the praise in this instance was perceived as overaccommodation. He is also observed to respond in Hindi in all of his turns which is convergent to Pritika's linguistic preference.

*Extract 10.40*

|    |           |   |
|----|-----------|---|
| 54 | Charuhaas | jayengi. hum TirupaTi Bhagwan kya kuD Jayegi.<br><b>will go. Will go to lord Tirupati myself</b>      |
| 55 | Pritika   | aap jayenge?<br><b>You will go?</b>   |
| 56 | Charuhaas | Ha<br><b>yes</b>  |
| 57 | Pritika   | Ve:rry good very good (.) very good   |
| 58 | Charuhaas | hum Chuke hum kiye ((nods head)) gaye hae<br><b>we because we ((nods head)) have already done it.</b> |

In extract 10.41, Pritika asks Charuhaas to identify numbers on a calendar, in a similar manner to the baseline conversation, seen in extract 10.37. She also makes an attempt to move the calendar so that it is within his visual field (line 7, 49). In this interaction, interpretability strategies used to accommodate Charuhaas's visual needs are used in the context of nonaccommodative discourse management and interpersonal control strategies, employed to test his competence. In addition, the infantilizing praise demonstrated in line 5 is patronising and may be perceived as overaccommodating. In lines 50-60, Charuhaas verbally responds to the instruction, using the verbal cues to support his turn possibly owing to his associated visual and comprehension difficulties which constrain

his ability to carry out the task. When asked to indicate what number was printed next to five, Charuhaas responds with six. Pritika therefore adjusts her instruction using ‘written before’ (line 54) and points to the specific number in each of these turns to support his ability to comprehend the specificity in the instruction. However, Charuhaas responds once again based on the verbal cues and says ‘four’ (line 55). It is apparent from these interactions that Charuhaas finds it easier to rely on the verbal modality rather than the written modality possibly owing to his hemianopia. In his case. However, his participation in conversation improved in terms of his ability to comprehend possibly owing to spontaneous recovery that may have occurred over the course of his enrolment in the study. In this extract Pritika used accommodative interpretability strategies but displays non-accommodative behaviour by way of discourse management and interpersonal control and what may be perceived as dependency overaccommodation.

*Extract 10.41*

|       |           |  |
|-------|-----------|--|
| 3     | Pritika   | eight. Aur ye?<br><b>Eight. And this?</b>  |
| 4     | Charuhaas | a ye (0.3) zero one eight<br>ah this. Zero one eight   |
| 5     | Pritika   | are vah (expression in Hindi to indicate praise- usually provided by someone in placed in a higher position than the person being praised). Zero one eight. Aur iske aage? (( <i>pointing to each number read by the PWA</i> ))<br><b>oh wow. Zero one eight, and in front of this? ((<i>pointing to each number read by the PWA</i>))</b>   |
| 6     | Charuhaas | (( <i>stares at the calendar trying to identify the numbers being pointed out to by the CP</i> ))  |
| 7     | Pritika   | ageaur aage (( <i>adjusts position of the calendar to suit field of vision</i> ))<br><b>Look further ahead ((<i>adjusts position of the calendar to suit field of vision</i> ))</b>  |
| 8     | Charuhaas | two eight  |
| 9     | Pritika   | two. £ Two zero one eight £ (( <i>pointing to specific numbers on the calendar</i> ))  |
| (...) |           |  |
| 48    | Padmini   | ye five baTa hae na (( <i>adjusts calendar and points out to a specific point on the calendar</i> )), ye five ke bagal me kya hae? yaha (( <i>points out to a specific point on the calendar</i> )) Dikkiye voh<br><b>this five you said no ((<i>adjusts calendar and points out to a specific point on the calendar</i>)), what is next to this five? Here ((<i>points out to a specific point on the calendar</i>)) look at that</b> |
| 49    | Pritika   | voh left side maT kijiye, right side move karke Dikhaiye. Is Taraf Dikhaiye (( <i>positions calendar so it is more clearly visible in'the PWA's field of vision</i> ))<br><b>don't pull it to the left side. Move it towards the right and show him. Show him this side. ((<i>positions calendar so it is more clearly visible in'the PWA's field of vision</i>))</b>  |
| 50    | Pritika   | ye papa kya hae? ye ye ye (( <i>points to a specific number on the calendar</i> )) faive ke pehle<br><b>what is this dad? This this this before five ((<i>points to a specific number on the calendar</i>))</b>  |
| 51    | Padmini   | (( <i>points to a specific number on the calendar</i> )) [faive ke]<br><b>((<i>points to a specific number on the calendar</i>)) [in relation to five]</b>   |
| 52    | Charuhaas | [six] (( <i>nods head</i> ))   |
| 53    | Padmini   | [faive ke]<br><b>[in relation to five]</b>   |
| 54    | Pritika   | [nahi ye faive ke] (( <i>points to a specific number on the calendar</i> )) pehle kya likha hae?   |

|    |           |   |
|----|-----------|---|
|    |           | <b>[no this five] ((points to a specific number on the calendar)) what is written before?</b>   |
| 55 | Charuhaas | four ((nods head, once then looks away))  |
| 56 | Pritika   | nahi papa ye pura word padiye ye kya hae? ((points to a specific word on the calendar and circles finger around it))<br><b>no dad, read this whole word, what is this? ((points to a specific word on the calendar and circles finger around it))</b> |
| 57 | Charuhaas | ((looks at what the CP 1 is pointing to on the calendar ))  |
| 58 | Pritika   | ye padiye ye ((points to a specific number on the calendar and circles finger around it))<br><b>this, read this ((points to a specific number on the calendar and circles finger around it))</b>  |
| 59 | Charuhaas | three four five   |
| 60 | Pritika   | nahi papa (hhh) ((picks up calendar away from PWA and looks at it))<br><b>no dad (hhh) ((picks up calendar away from PWA and looks at it))</b>  |

In the conversations recorded during the follow up sessions, Pritika was observed to be accommodative in 87% of her turns which was mainly using discourse management strategies, interpretability strategies such as accommodating to Charuhaas' hemianopia by moving visual props to ensure they are within his visual field. During the first follow up, she was observed to facilitate a more meaningful conversation allowing for equal sharing of turns and accommodating to Charuhaas' mood throughout the interaction. She was observed to be nonaccommodative in 46% of her turns which was observed mainly through discourse management and interpersonal control by way of patronising expression of praise, the use of test questions and test-tasks. Charuhaas was observed to be accommodative in 74% of his turns mainly in terms of convergence to the style and the task. It could be suggested that the communication support strategies may not have been well accepted or applicable in conversations based on the observable tendency to avoid the use to written communication.

**Table 10.23 Summary of the adjustment observed in the conversations between Pritika, Padmini and Charuhaas across the follow up conversations**

|     | Interlocutor | Accommodation | Constrained Accommodation | Nonaccommodation | Unavoidable Ac |
|-----|--------------|---------------|---------------------------|------------------|----------------|
| FU1 | CPs          | 97%           | -                         | 2%               | -              |
|     | Charuhaas    | 97%           | -                         | 21%              | 19%            |
| FU2 | CPs          | 77%           | -                         | 90%              |                |
|     | Charuhaas    | 50%           | 48%                       | -                | 11%            |

#### 10.4.3 Summary of dyad 4

CPT-In did not have a marked impact on conversation for dyad 4. There appeared to be several instances of nonaccommodation in terms of interpersonal control exhibited by both communication partners. This was observed through their use of test questions, test-tasks, and infantilising praise. Generally, the communication partners were uninterested in the use of in supportive communication ramps and props that might reduce dependence as their focus was on 'fixing t'e brain'— "we think'that he'll really that he becomes more

independent, but not by rod,<sup>4</sup> by his brain.” (see para 130 from baseline interview, appendix 17, transcript RYhmZWLA). The conversation partners were more interested in rehabilitative therapy rather than skills to support communication which may explain their adherence to practice tasks and test questions—“*What worries me that, uhh give us a lot of homework. What worries me, when he sits the whole day like this only, not having much to do and when we are busy with our own work and we are not having the strategy, uh how to cope up his lonely life, so if uh, you will give us homeworks like uh ((folds finger tips together as ‘though ‘writing’)) you have to uh teach him alphabets, you have to teach him counting, our time also will be utilised in proper manner, productive way, and his time also will be utilised. Worry is, he keeps sitting alone in his room, he is not disturbed at all during the day*” (see para 136 from the interview). The communication partners were observed to continue engaging in nonaccommodative communicative behaviour. An improvement in the amount of accommodation from approximately 40% to 87%, but this change belies the nature of the adjustments which were limited to linguistic convergence and accommodation to Charuhaas’ hemianopia. The nonaccommodative discourse management and interpersonal control behaviours that persisted following CPT included the tendency to assume a role as a tester or trainer during conversation. There was an increase in the amount of nonaccommodative behaviour in Charuhaas’ turns which was associated with increased anger outbursts and dismissiveness in his turns. The reduced instances of unavoidable nonaccommodation were associated with accommodations made to his visual impairment as well as improvements observed in his ability to comprehend without support. Table 10.24 summarises the changes in adjustment observed and the strategies used across the baseline and follow-up sessions for dyad 4. It must also be noted that the improvement demonstrated in the Charuhaas’s participation both on visual analysis of his (M)PCA scores as well the increased accommodation during interaction could be associated with ongoing spontaneous recovery (initial baseline was at 3 months post stroke and the final follow up was at 5 months post his stroke).

**Table 10.24 Summary of adjustments made across baseline and follow up sessions by Pritika, Padmini and Charuhaas**

| Interlocutor | Nature of Adjustment | Type of Adjustment      | B1   | B2    | B3  | FU 1 | FU 2 |
|--------------|----------------------|-------------------------|------|-------|-----|------|------|
| CPs          | Facilitative         | Accommodation           | 26%  | 43%   | 51% | 97%  | 77%  |
|              | Obstructive          | Nonaccommodation        | 100% | 91%   | 86% | 2%   | 90%  |
|              |                      | Avoidance Communication | 3%   | 3%    | 9%  | -    | -    |
| Charuhaas    | Facilitative         | Accommodation           | 3%   | 26%   | 45% | 97%  | 50%  |
|              |                      | Constrained Ac          | 20%  | 65 %  | 42% | -    | 48%  |
|              | Obstructive          | Nonaccommodation        | 3%   | 6.52% | -   | 21%  | -    |
|              |                      | Unavoidable Ac          | 94%  | 43%   | 26% | 19%  | 11%  |
|              |                      | Avoidant Communication  | -    | 2%    | -   | -    | -    |

<sup>4</sup> In the interview the caregivers were asked about the need for environmental supports- physical, communicative etc. A ‘rod’ was used as an example of a physical support as they reported difficulty walking and walking in a straight line possibly due to hemianopia.

### 10.5 Dyad 5

Dyad 5 comprises Chirag, a 28 year old man with very severe global aphasia (AQ = 1.2) in the acute phase, and his brother-in-law, Pavan who is his primary caregiver and CP. Chirag’s levels of fatigue and consciousness were observably low. At the time of the study (both baseline and follow-up) he was in a neuro intensive care ward. Chirag had his stroke on a train journey. He was moved to Bangalore for the purpose of treatment. His wife lives in their hometown in Tamil Nadu, a neighbouring state, and the family decided that as she was due to deliver their first child she should not be informed of his stroke. Chirag’s brother Pranith is also present but is reserved in his participation. Pavan and Chirag appear to have a close bond and Pavan appears keenly invested in Chirag’s recovery. The knowledge available to Pavan regarding Chirag’s abilities is very limited owing to the very recent onset of aphasia.

#### 10.5.1 Chirag and Pavan results from the (M)SCA and (M)PCA

The performance of dyad 5 in conversation as measured using the (M)SCA and the (M)PCA scales is presented in figure 10.9.

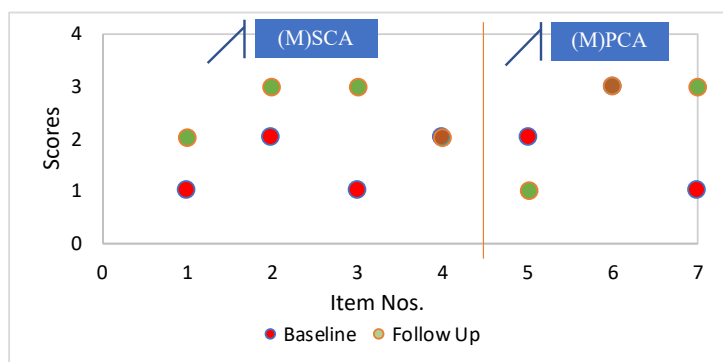


Figure 10.9 Performance of Dyad 5 on (M)SCA (items 1-4) and (M)PCA (items 5-7) scores across baseline and follow up

Table 10.25 Results from paired t-tests<sup>5</sup> carried out with 95% CI,  $\alpha=0.05$  and power=0.8.

| Dyad   | Measure         | t-score  | p-value | Cohens d | Comment                                 |
|--------|-----------------|----------|---------|----------|---|
| Dyad 5 | (M)SCA + (M)PCA | -1.6984  | 0.1403  | 0.926    | No statistically significant difference |
|        | (M)SCA          | -2.4495  | 0.09172 | 1.732    | No statistically significant difference |
|        | (M)PCA          | -0.37796 | 0.7418  | 0.307    | No statistically significant difference |

<sup>5</sup> Owing to acute stage and admission in the ‘step-down ICU’ ward, it wasn’t appropriate to spend too much time video recording. Thus, the caregivers and primary communication partners participating were asked to send a recording of conversational interaction during the day. The communication partners, however, were unable to produce the recordings on two occasions when requested, resulting in missing data. As a result of insufficient baseline conversational data, it was not possible to run WEST-analysis for the (M)SCA and the (M)PCA measures. Owing to one pre and post measure,  $d_{BS}$  could not be calculated. Cohen’s d is therefore used as discussed in chapter 6.

CPT-In did not have a significant impact on the communicative performance of dyad 5. Visual analysis of the overall shift in performance on the Kagan scales prior to and following CPT-In is illustrated in figure 10.10.

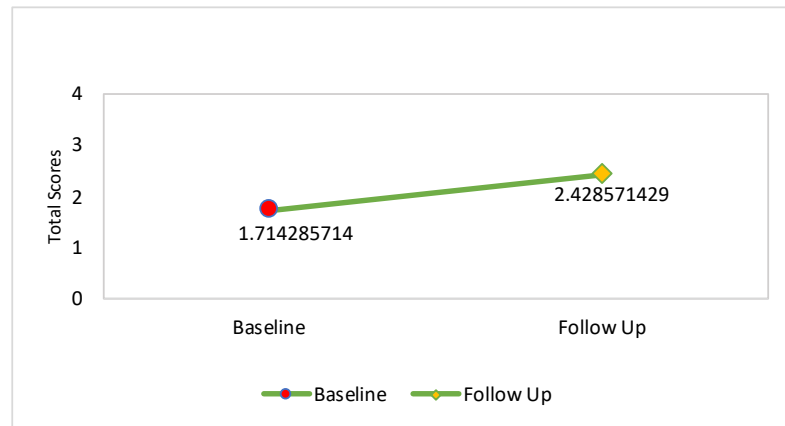


Figure 10.10 Performance of Dyad 5 on (M)SCA and (M)PCA across baseline and follow up sessions

### 10.5.2 Chirag and Pavan changes in communicative adjustment

Analysis across the baseline and follow-up conversations revealed changes in communicative adjustments made by both interlocutors. Table 10.26 and 10.27 present the types of adjustment seen by interlocutor, specified by the phase of the study.

**Table 10.26 Summary of strategies for adjustment used across baseline and follow up sessions for Pavan (dyad 5)**

| Type of adjustment | Adjustment Strategy   | Displayed by CP in baseline session | Displayed by CP in follow-up session |
|--------------------|-----------------------|-------------------------------------|--------------------------------------|
| Accommodation      | Convergence           | -                                   | FU1                                  |
|                    | Discourse Management  | B1                                  | FU1                                  |
|                    | Interpretability      | B1                                  | FU1                                  |
|                    | Emotional Expression  | -                                   | FU1                                  |
| Nonaccommodation   | Maintenance           | B1                                  | -                                    |
|                    | Divergence            | B1                                  | -                                    |
|                    | Discourse Management  | B1                                  | FU1                                  |
|                    | Interpersonal Control | B1                                  | FU1                                  |
|                    | Interpretability      | B1                                  | FU1                                  |

**Table 10.27 Summary of strategies for adjustment used across baseline and follow up sessions for Pavan (dyad 5)**

| Type of adjustment           | Adjustment Strategy  | Displayed by PWA in baseline session | Displayed by PWA in follow-up session |
|------------------------------|----------------------|--------------------------------------|---------------------------------------|
| Accommodation                | Convergence          | -                                    | FU 1                                  |
|                              | Discourse Management | -                                    | FU 1                                  |
|                              | Interpretability     | -                                    | FU 1                                  |
| Constrained Accommodation    | Convergence          | -                                    | FU 1                                  |
|                              | Discourse Management | -                                    | FU 1                                  |
|                              | Interpretability     | -                                    | FU 1                                  |
| Unavoidable Nonaccommodation | Maintenance          | B 1                                  | -                                     |
|                              | Discourse Management | B 1                                  | -                                     |
|                              | Interpretability     | B 1                                  | -                                     |
| Avoidant Communication       | Discourse management | B 1                                  | -                                     |

#### 10.5.2.1 *Chirag and Pavan before conversation partner training*

In extract 10.42, Pavan enquires as to whether Chirag is aware that he is in Bangalore (line 21), a reasonable question to ask someone who is acutely unwell. In his conversation with Chirag, he does not support Chirag’s expression and is therefore unable to elicit a clear response from him. Here Pavan’s maintenance of his verbal style is nonaccommodative in terms of discourse management and interpretability strategies. In addition, in his question in line 21, he is ‘testing’ Chirag’s level of awareness, which may be considered appropriate in terms of judging what information Chirag may need. It is unclear however, if this may be perceived as nonaccommodation by Chirag considering the circumstances surrounding his stroke. In the turns taken by Chirag (lines 22 and 24) it is apparent that he is unable to accommodate to Pavan. He maintains his vocalisation in most turns during the conversation. His lack of adjustment is unavoidable owing to his aphasia— therefore classified as unavoidable nonaccommodation.

#### *Extract 10.42*

|    |        |  |
|----|--------|--|
| 21 | Pavan  | are you aware you are in Bangalore? ((holds PWAs arm)) |
| 22 | Chirag | hm   |
| 23 | Pavan  | hm? ((holds PWAs arm ))                                |
| 24 | Chirag | hm   |

In extract 10.43, Pavan enquires about Chirag’s feelings in an attempt to reassure him. However, owing to the lack of support provided by Pavan to enable Chirag to express himself, conversation appears to be compromised. Pavan maintains his use of verbal communication which is nonaccommodative to Chirag’s receptive and expressive needs. However, he appears to make inferences based on Chirag’s emotional presentation and reactions such as when Chirag looks down in line 41.

#### *Extract 10.43*

|    |        |   |
|----|--------|---|
| 40 | Pavan  | are you feeling bad? ((hold PWAs hand with both hands)) |
| 41 | Chirag | ehh ((looks down))                                      |
| 42 | Pavan  | don't feel bad  |
| 43 | Chirag | ah ahh ((looks away))                                   |
| 44 | Pavan  | everyone is here, know?                                 |
| 45 | Chirag | aah   |

|    |        |   |
|----|--------|---|
| 46 | Pavan  | ((places hand on PWAs shoulder to reassure him)) it will come it will come ((nods head tilting it towards the right side))  |
| 47 | Chirag | ((smiles))  |
| 48 | Pavan  | it will take little ((brings index finger and thumb of right hand an inch from each other)) time (.) but it will come ((nods head, holds PWAs hand with both his hands)) (.) okay? (.) nothing to worry okay? (.) <b>you have to cooperate, that's it</b> ((nods head, with hands still holding PWAs hand)) |

By conveying his inferences based on Chirag's nonverbal reactions, Pavan partially accommodates to him through convergence and discourse management. Chirag himself, makes attempts to take a turn at each point which is accommodative in terms of discourse management, but unavoidably nonaccommodative in terms of the lack of information he provides in these turns. Pavan's physical expression of empathy and reassurance in lines 40 and 46 are accommodative in terms of emotional expression. The outcome of his accommodative emotional expression is apparent in line 47 where Chirag responds to him by smiling. The act of smiling to acknowledge Chirag's support may be considered as accommodative. In line 48, Pavan attempts to reassure Chirag that it will get better but appears to partially place the responsibility on him— "you have to cooperate, that's it". Throughout the conversation however, the reduced pace with which Pavan speaks, is accommodative in terms of discourse management as it makes it easier to for Chirag to attend to the message.

Later in the conversation (see extract 10.44), Pavan 'tests' Chirag's memory by asking him 'who' the caregivers present in the room were. He supports his questions using pointing which in an accommodative interpretability strategy for the purposes of Chirag's comprehension. However, similar to the behaviour described in extract 10.44, Pavan does not support Chirag to express a response and is therefore nonaccommodative in his maintenance or the lack of needed adjustment. In addition, his act of 'testing' is nonaccommodative, both in terms of discourse management and interpersonal control. Chirag on the other hand, makes attempts to be accommodative by attempting to respond and engage in interaction. However, owing to the lack of accommodation by Pavan, and as a consequence of his aphasia, Chirag is restricted in his ability to accommodate and thereby demonstrates instances of unavoidable nonaccommodation in all his turns shown in the extract (lines 77, 79, 87, 89). In lines 77 and 79, Chirag turns to look at and smile at the caregiver being pointed to. In doing so, he partially accommodates in terms of discourse management, by attending to the task. In line 89, Chirag makes a visible attempt to verbalise. His effort to take a turn and indicate his participation is accommodative in terms of discourse management. However, his inability to adjust in terms of interpretability or style of communication is unavoidable owing to his aphasia—unavoidable nonaccommodation.

*Extract 10.44*

|       |        |   |
|-------|--------|---|
| 76    | Pavan  | who is he? ((points to a friend sitting on the bed to the left of the PWA and in front of him)) |
| 77    | Chirag | ((looks at the person being pointed to and smiles))   |
| 78    | Pavan  | huh? Who is he ((holds PWAs hand to draw his attention ))                                       |
| 79    | Chirag | ((looks at the person being pointed to and smiles))   |
| (...) |        |   |



|    |        |   |
|----|--------|---|
| 86 | Pavan  | who is he? ((points to father of PWA who is seated on the phone slightly behind and to the right of the PWA))   |
| 87 | Chirag | ((looks at the previous person being pointed to))   |
| 88 | Pavan  | see here ((points to father of PWA who is seated on the phone slightly behind and to the right of the PWA)) (0.2) Ramesh ((tugs on PWAs arm as he points towards and looks at the PWAs father)) see |
| 89 | Chirag | ehhh ah ah ↑ ah   |
| 90 | Pavan  | who is he? ((tugs on PWAs arm as he points towards and looks at the PWAs father ))  |

Several turns later, within the same conversation (extract 10.45), Pavan verbally lists out names of people one by one, at each point 'testing' if Chirag identifies one of them as the name of the caregiver seated to his left. When the third option is provided, Chirag responds using an gesture, that appears to convey a 'stop' sign (line 135).

*Extract 10.45*

|     |        |  |
|-----|--------|--|
| 132 | Pavan  | Shiva (name of person) ? ((points in the direction of CP 2 and looks at CP 1))   |
| 133 | Chirag | ((clicks tongue making a labio dental sound possibly indicating the option is incorrect or that he is upset; shakes head)) |
| 134 | Pavan  | Murthi (name of person)? ((points in the direction of CP 2 and looks at CP 1))   |
| 135 | Chirag | ((extends left arm forward and raises hand with palm facing outwards, possibly ind'cati'g 'stop'))                         |
| 136 | Pavan  | hm ((imitates the hand gesture indicated by the PWA and looks at CP 2))  |
| 137 | Chirag | hmm hmm ((looks up at CP1, extends left hand to hold the CPs hand))  |
| 138 | Pavan  | hm? ((taps PWAs hand; nods head; holds PWAs hands in his hands))   |
| 139 | Chirag | hmm  |
| 140 | Pavan  | ((nods head; looks at CP 2 smiling, holds PWAs hands in his hands)) Murthi ((looks at PWA, nods head))                     |

Chirag accommodates to the 'task' introduced by Pavan by convergence as well as interpretability strategies (using gestures to communicate his response) and discourse management strategies (turn taking and engaging with the task). In line 140, it is clear that the response indicated by Chirag is correct. In this interaction, although the task itself is nonaccommodative in terms of discourse management and interpersonal control, the idea of providing options one by one, so that Chirag can agree or disagree with it at each point, is accommodative in terms of discourse management. The adjustment made here focuses on the interaction rather than the effective transaction of information.

In the conversations recorded during the baseline phase, Pavan was observed to be accommodative in 68% of his turns. Accommodation was seen in the form of interpretability strategies using props, repetition and rephrasing. He was observed to be nonaccommodative in 85% of his turns. Of these nonaccommodative turns, 62% were owing to underaccommodation. Nonaccommodation was mainly observed in the form of discourse management strategies and interpersonal control strategies. Chirag was observed to make attempts to accommodate in 36% of his turns, however this was constrained owing to his aphasia. He was observed to exhibit unavoidable nonaccommodation in 85% of his turns and avoidance communication in 15% of his turns. Avoidance communication was observed following a series of non-supported turns which may therefore be considered a result of the negative communicative experience, or related to his medical status, including fatigue.

**Table 10.28 Summary of the adjustments observed in the baseline conversations between Pavan and Chirag**

|   |     | Accommodation | Constrained Accommodation | Nonaccommodation | Unavoidable Accommodation | Avoidance Communication |
|---|-----|---------------|---------------------------|------------------|---------------------------|-------------------------|
| B | CP  | 68%           | -                         | 85%              | -                         | -                       |
| 1 | PWA | -             | 36%                       | -                | 85%                       | 15%                     |

### 10.5.2.2 Following conversation partner training

In the single follow up conversation, Pavan's accommodative adjustments are observed through his use of convergence, interpretability strategies and discourse management strategies. Only three instances of nonaccommodation are observed in Pavan's communicative behaviour which relate to interpersonal control. In extract 10.46, Pavan asks Chirag if he feels he might need support when he moves back home. Here, Pavan employs interpretability strategies through the use of written keywords in each turn that are also converging to the communication style that supports Chirag. The use of keywords to support Chirag's responses serves as a discourse management strategy which he promptly engages with through pointing (lines 2, 4 and 6). Pavan's act of confirming the response indicated by Chirag, also indicates his acknowledgement of Chirag's competence. Through the use keywords, Chirag is accommodating to the communication style of Pavan through convergence, while also employing interpretability strategies to convey his response. In line 10, Chirag takes the sheets back from Pavan to ensure he has marked the right response, an act that is accommodative in terms of discourse management. The act of taking the sheets of paper is not considered as nonaccommodation in this instance as it serves to support shared responsibility in confirming a message rather than exerting control.

#### Extract 10.46

|    |        |  |
|----|--------|--|
| 1  | Pavan  | Do you need any support at home ((shows PWA the keywords written down))    |
| 2  | Chirag | ((reads the keywords and points towards them))                             |
| 3  | Pavan  | hm? ((points to the keywords ))  |
| 4  | Chirag | hmm hm ((points to keywords)) (0.4) hm                                     |
| 5  | Pavan  | hm? Which one? ((points towards the response options ))                    |
| 6  | Chirag | hm ((points towards the 'eyw'rd 'yes'))                                    |
| 7  | Pavan  | yes ((points towards the 'eyw'rd 'yes'))                                   |
| 8  | Chirag | hm   |
| 9  | Pavan  | ((marks the PWAs response on the sheet))                                   |
| 10 | Chirag | ((pulls sheets back towards himself to see what the CP has marked))        |
| 11 | Pavan  | ((points to keyword marked as PWAs response; writes keywords down)) (0.35) |

In extract 10.47, Pavan asks Chirag about the services he is receiving. The nature of adjustment throughout his interaction and across the conversation follows a similar pattern to that shown in extract 10.46. In this extract however, an instance of accommodative emotional expression is also seen (line 60) through the physical expression of empathy in an attempt to provide reassurance to Chirag.

Extract 10.47

|    |        |   |
|----|--------|---|
| 60 | Pavan  | Ramesh (.) treatment is fine (( <i>shows the sheet with the keywords to the PWA, taps PWAs knee reassuringly</i> )) |
| 61 | Chirag | (( <i>looks at what the CP has written down</i> ))  |
| 62 | Pavan  | regarding the treatment, physio, the neuro, treatment is fine? (( <i>looks at sheets and PWA in turn</i> ))         |

The instances of nonaccommodation in terms of interpersonal control that were observed in the conversational behaviour exhibited by Pavan resulted from the disruption to the flow of conversation resulting from the amount of time spent in writing the keywords to support interaction and transaction in the subsequent turns as demonstrated in extract 10.48. There is an increased time lapse of 27 seconds (line 29) which served disruptive to the flow.

Extract 10.48

|    |        |   |
|----|--------|---|
| 29 | Pavan  | (( <i>writes keywords down in preparation for the next question</i> )) (0.27)   |
| 30 | Chirag | (( <i>PWA looks over at CP writing; looks around at other family members moving in and out of his bedside area</i> ))                   |
| 32 | Pavan  | (( <i>shows written keywords to the PWA</i> )) when do you want to leave to home town? (( <i>points to the keywords written down</i> )) |

Chirag appeared helpless in terms of his ability to participate in conversation and was observed to awkwardly look around the room (line 30) waiting for Pavan to initiate the next conversational turn. It must be noted that this may be related to a structural limitation of the set up available for this dyad—Chirag was seated in his bed (Fowler’s position- head rest elevated at 45° for relaxation), while Pavan remained standing at his bedside for the entire duration of the conversation. Most writing of keywords was therefore carried out in a standing position with the use of cardboard support.

In the follow up conversation, Pavan was observed to be accommodative in 100% of his turns (see table 10.29). The knowledge and skills he gained from the training were evident in his use of accommodative interpretability and discourse management strategies following CPT-In. He was observed to be nonaccommodative only in 9% of his turns in the follow up conversation. Nonaccommodation was observed in the form of discourse management and interpersonal control strategies owing to structural limitations explained above. Chirag was observed to be accommodative in 100% of his turns. He was observed to exhibit unavoidable nonaccommodation in 6% of his turns.

**Table 10.29 Summary of the adjustments observed in the follow-up conversations between Pavan and Chirag**

|     |     | Accommodation | Nonaccommodation | Unavoidable Ac |
|-----|-----|---------------|------------------|----------------|
| FU1 | CP  | 100%          | 9%               | -              |
|     | PWA | 100%          | -                | 6%             |

### 10.5.3 Summary of Dyad 5

A change was observed in the communicative adjustments following CPT-In (see table 10.30), despite the non-significant change on the (M)SCA and the (M)PCA. An increase in the amount of accommodation in Pavan’s turns from 68% to 100% as well as a reduction

in the amount of nonaccommodation in Pavan’s turns from 85% to 9% indicates a clinically significant improvement in conversation. A notable increase in the amount of accommodation in Chirag’s turns from 0 to 100% as well a reduction in the observed instances of unavoidable nonaccommodation from 85% to 6% suggests that the adjustments offered by Pavan supported Chirag’s participation in the interaction. In addition, no instances of avoidance communication were observed in the follow up conversation. Pavan appeared to demonstrate a significant increase in the amount and extent of accommodation to the communication needs of Chirag. The training aimed to provide him with more knowledge of and enhance his understanding of aphasia. These aspects appear to have helped him understand Chirag’s communication abilities and difficulties better. The change in his orientation towards engaging in conversation with Chirag is visible in his communicative behaviour. The content of the questions asked is more relevant to Chirag and does not include test questions and test tasks as was previously seen. He pays more attention to discussing how Chirag feels and about his satisfaction with the treatment services he is being provided. Chirag in turn, has access to conversational support from Pavan and is able to participate in an effective conversational interaction with him.

**Table 10.30 Summary of adjustments across baseline and follow up sessions for dyad 5**

| Interlocutors | Nature of Adjustment | Type of adjustment           | B1  | FU 1 |
|---------------|----------------------|------------------------------|-----|------|
| Pavan         | Facilitative         | Accommodation                | 68% | 100% |
|               | Obstructive          | Nonaccommodation             | 85% | 9%   |
| Chirag        | Facilitative         | Accommodation                | -   | 100% |
|               |                      | Constrained Ac               | 36% |      |
|               | Obstructive          | Unavoidable Nonaccommodation | 85% | 6%   |
|               |                      | Avoidance Communication      | 15% | -    |

### 10.6 Dyad 14

Dyad 14 comprises Carlos, and his wife Patricia. Carlos has been living with aphasia for four years and has received very limited speech and language therapy. Patricia reported that they were not keen to resume therapy as they were dissatisfied with it.

#### 10.6.1 Carlos and Patricia results from the (M)SCA and the (M)PCA

For Dyad 14, a significant impact of CPT-In was present in the overall communicative performance of the dyad and specifically in the Measure of Support in Conversation. However, CPT-In did not have a statistically significant impact on the measure of Carlos’ participation in conversation. The effect size for the impact of CPT on measure of support provided in conversation by the CP is  $d_c=1.85$ , while that for the participation in conversation was lower at  $d_c=1.241$ . The overall effect size for dyad 14 is  $d_c=1.704$ . The statistically significant improvement in Patricia’s ability to support conversation for Carlos following CPT with a shift in the mean from 1.25 to 3 indicates that the communication partner was observed to support communication for the PWA 50-75% of the time following CPT-In as compared to approximately 25% of the time prior to exposure to CPT-In. A shift in the mean of the measure of the PWAs skill in participating in conversation was also observed from 1.67 to 3. The improvement indicates that Carlos was observed to make

successful attempts to participate, understand and comprehend a message 50-75% of the time following CPT-In as compared to 50 of the time prior to CPT-In.

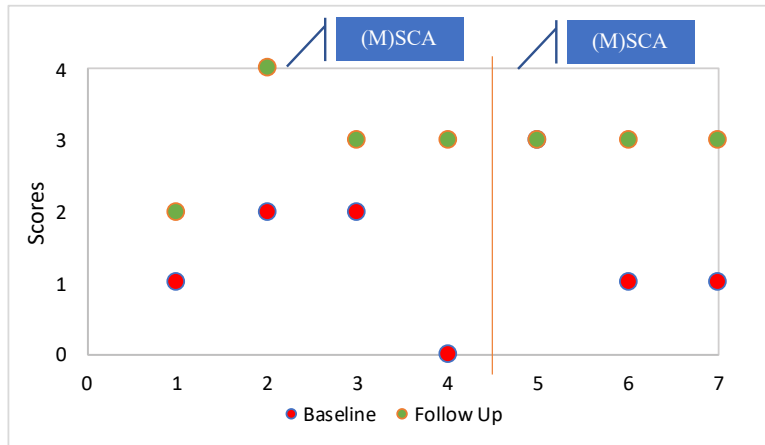


Figure 10.11 Performance of Dyad 14 on (M)SCA (items 1-4) and (M)PCA (items 2-4) scores across baseline and follow up

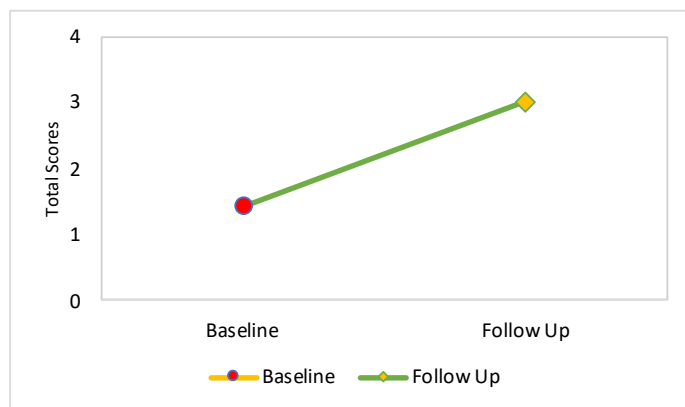


Figure 10.12 Performance of Dyad 14 on (M)SCA and (M)PCA across baseline and follow up sessions

**Table 10.31 Results from paired t-tests<sup>6</sup> carried out with 95% CI,  $\alpha=0.05$  and power=0.8.**

| Dyad    | Measure         | t-score | p-value        | Cohens d | Comment                                 |
|---------|-----------------|---------|----------------|----------|---|
| Dyad 14 | (M)SCA + (M)PCA | -4.2603 | <b>0.00532</b> | 1.70412  | Statistically significant difference    |
|         | (M)SCA          | -3.6556 | <b>0.03535</b> | 1.849477 | Statistically significant difference    |
|         | (M)PCA          | -2      | 0.1835         | 1.240496 | No statistically significant difference |

### 10.6.2 Carlos and Patricia changes in communicative adjustment

Analysis across the baseline and follow-up conversations revealed changes in communicative adjustments made by both interlocutors. Table 10.32 and 10.33 present the types of adjustment seen by interlocutor, specified by the phase of the study.

**Table 10.32 Summary of strategies for adjustment used across baseline and follow up sessions for Patricia (dyad 14)**

| Type of adjustment | Adjustment Strategy   | Displayed by CP in baseline session | Displayed by CP in follow-up session |
|--------------------|-----------------------|-------------------------------------|--------------------------------------|
| Accommodation      | Convergence           | B1                                  | FU1                                  |
|                    | Discourse Management  | B1                                  | FU1                                  |
|                    | FU 1                  | -                                   | FU1                                  |
| Nonaccommodation   | Maintenance           | B 1, FU 1                           | FU1                                  |
|                    | Divergence            | F 1                                 | FU1                                  |
|                    | Discourse management  | B 1, FU 1                           | FU1                                  |
|                    | Interpretability      | B 1                                 | -                                    |
|                    | Interpersonal Control | B 1, FU 1                           | FU1                                  |

<sup>6</sup> Carlos and Patricia only participated in the pilot study- hence conversational Data was used for the (M)SCA and (M)PCA calculations, however, no information was collected on the SAQOL and the SOC of the PWA and PCG. As the pilot study involved only one pre and one post data point, it was not possible to run the WEST analysis for this dyad. Owing to one pre and post measure,  $d_{BS}$  could not be calculated. Cohen's d is therefore used as discussed in chapter 6.

**Table 10.33 Summary of strategies for adjustment used across baseline and follow up sessions for Carlos (dyad 14)**

| Type of adjustment           | Adjustment Strategy  | Displayed by CPs in Session | Displayed by PWA in Session |
|------------------------------|----------------------|-----------------------------|-----------------------------|
| Accommodation                | Convergence          | B1                          | FU1                         |
|                              | Discourse Management | B1                          | FU1                         |
|                              | FU 1                 | -                           | FU1                         |
| Constrained Accommodation    | Convergence          | B1                          | FU1                         |
|                              | Discourse Management | B1                          | FU1                         |
|                              | Interpretability     | B1                          | FU1                         |
| Reluctant Accommodation      | Discourse management | B1                          | -                           |
| Unavoidable Nonaccommodation | Maintenance          | B1                          | FU1                         |
|                              | Divergence           | B1                          | -                           |
|                              | Discourse management | B1                          | -                           |
|                              | Interpretability     | B1                          | -                           |
| Avoidant Communication       | Discourse management | B1                          | -                           |

#### 10.6.2.1 Before conversation partner training

Patricia appears to be aware that Carlos comprehends spoken communication but she fails to acknowledge his competence on several occasions throughout the interaction. Her tendency to pose test questions is nonaccommodative in terms of discourse management and interpersonal control. This is evidenced in extract 10.49 where Patricia asks Carlos what time it is (line 9). In lines 11 and 15 she also tests his ability to ‘complete the sentence’ verbally which is in patronising and undermining of Carlos’ competence.

##### Extract 10.49

|    |          |  |
|----|----------|--|
| 9  | Patricia | what is the time   |
| 10 | Carlos   | time time time (( <i>extends arm forwards with palm facing upward and fingers partially curled inward</i> )) |
| 11 | Patricia | time for?  |
| 12 | Carlos   | (( <i>leans forward, opens mouth, but no lip movement or output</i> ))                                       |
| 13 | Patricia | lunch  |
| 14 | Carlos   | ya (.) lunch   |
| 15 | Patricia | yaa (.) Lunch (.) ya going to’be 11 o’clock. (.) 11:45 now (.) quarter to?                                   |
| 16 | Carlos   | (( <i>nods head</i> )) twelve  |
| 17 | Patricia | twelve ah haa: you know that? Yaaa (( <i>nods head</i> ))? £Okay (smiling happily)                           |

Carlos, who finds it challenging to respond to the questions posed by Patricia, uses his turns to repeat the final word produced by Patricia in the immediately preceding turn. This is apparent in lines 9-10 where he responds with ‘time time time’ to the question of ‘what is the time’ and 13-14 where he responds with ‘ya lunch’ when Patricia says ‘lunch’. This communicative behaviour is characteristic of his aphasia and may be considered as instances of unavoidable nonaccommodation using discourse management strategies. His verbal response is considered as converging to the preferred spoken style. This act is accommodative for its purpose of social affiliation but is nonaccommodative in terms of the interpretability. In line 17, Patricia explicitly reveals she is surprised Carlos “know(s)” that the time is a quarter to twelve. Her choice of words and her tone are patronising and are thus nonaccommodative in terms of interpersonal control and discourse management.

Extract 10.50 demonstrates how Patricia corrects Carlos while also making an attempt to explore what he means when he produces a specific stereotypic utterance—‘what is the cause’ (line 41). She assumes the role of a ‘trainer’ when she corrects him and instructs him to use the appropriate words rather than just saying ‘cause’.

*Extract 10.50*

|    |          |   |
|----|----------|---|
| 41 | Carlos   | what is the c-cause? (( <i>extends arm forwards with palm facing upward and fingers partially curled inwards, then closes fist</i> ))   |
| 42 | Patricia | no (( <i>shakes head</i> )) (.) there is no cause (.) you have to say the proper (( <i>raises hand with index finger and thumb held together and other fingers folded in</i> )) words |
| 43 | Carlos   | words (.) words (( <i>extends arm forwards with palm facing upward and fingers partially curled inwards</i> ))  |
| 44 | Patricia | yeahh (( <i>nods head</i> )) (.) Proper word  |
| 45 | Carlos   | words (( <i>extends arm forwards with palm facing upward and fingers partially curled inwards</i> ))  |
| 46 | Patric'a | musn't say cause  |
| 47 | Carlos   | cause (( <i>extends arm forwards with palm facing upward and fingers partially curled inward</i> ))   |
| 48 | Patricia | you say for everything cause no   |
| 49 | Carlos   | cause (( <i>extends arm forwards with palm facing upward and fingers partially curled inward</i> ))   |
| 50 | Patricia | what do you mean by that cause?   |
| 51 | Carlos   | (( <i>nods head</i> )) Sss (( <i>extends arm forwards with palm facing upward and fingers partially curled inward</i> ))  |
| 52 | Patricia | you know?   |
| 53 | Carlos   | (( <i>nods head</i> )) some (( <i>extends arm forwards with palm facing upward and fingers partially curled inward</i> ))   |
| 54 | Patricia | something you want to tell (( <i>nods head</i> ))   |
| 55 | Carlos   | (( <i>nods head</i> )) tell (( <i>extends arm forwards with palm facing upward and fingers partially curled inward</i> ))   |
| 56 | Patricia | But you're not getting the word?  |
| 57 | Carlos   | word (( <i>nods head</i> ))   |
| 58 | Patricia | yeahhh? So you say cause?   |
| 59 | Carlos   | cause (( <i>looks at the Cp, Tilts head to the left side</i> ))   |
| 60 | Patricia | that should not be (( <i>shakes head</i> ))   |
| 61 | Carlos   | (( <i>looks away</i> ))   |
| 62 | Patricia | you must tell what word you want to say   |
| 63 | Carlos   | (( <i>blankly stares</i> ))   |

Carlos makes an attempt to converge in most of the turns taken between lines 41 and 59 although his attempts are constrained as a result of his aphasia. In lines 51 and 53, Carlos appears to make an attempt to explain his difficulty but is interrupted by Patricia who attempts to interpret his intended meaning. Some degree of accommodation is seen in lines 54, 56, and 58 where she partially accommodates to Carlos by communicating her interpretations of his communication, based on his verbal, vocal and gestural responses.



Patricia's tendency to overlook Carlos' competence is made more apparent in extract 10.51 where she asks him a series of test questions based on information she has provided him with the previous day (line 100).

*Extract 10.51*

|       |          |  |
|-------|----------|--|
| 98    | Patricia | then? No which month is this you know? From tomorrow   |
| 99    | Carlos   | kera-k-k-k-kenny (( <i>points towards the CP with index finger</i> ))  |
| 100   | Patricia | no (( <i>shakes head</i> )), Yesterday I Told know ?   |
| 101   | Carlos   | k-kera-[Keny (( <i>taps PWAs arm</i> )) Kenny]   |
| 102   | Patricia | [what all we have to do], (( <i>shakes head</i> )) go go to the (0.2) Cemetry  |
| (...) |          |  |
| 113   | Patricia | then day after tomorrow?   |
| 114   | Carlos   | souls day (( <i>nods head</i> ))   |
| 115   | Patricia | souls day (.) Then we have to go to the?   |
| 116   | Carlos   | bank bank bank   |
| 117   | Patricia | noo: to the (0.2) [graveyard no?]  |
| 118   | Carlos   | [bank bank bank] (( <i>surprised expressions, extends hand with palm facing upwards and fingers spread out and partially curled inwards</i> )) |
| 119   | Patricia | not you; I will go, Pray for your mommy, daddy and come  |
| (...) |          |  |
| 125   | Patricia | so which month the next month? (0.3) November  |
| 126   | Carlos   | (( <i>extends hand with palm facing upwards and fingers spread out and partially curled inwards</i> ))   |
| (...) |          |  |
| 137   | Patricia | All forgotten yesterday what I've told?  |
| 138   | Carlos   | (( <i>looks away, Appears frustrated</i> ))  |

In line 137, Patricia explicitly asks her husband if he has forgotten everything that she told him. In line 115, Patricia poses a 'sentence completion task' to Carlos, to which he incorrectly responds with 'bank' in line 116. Patricia's preference for verbal communication is evident in this extract and also in the observations made during phase one described in section 8.4.4. Patricia made a statement explicitly indicating she preferred the verbal style to the gestural style— "*say, I want to eat. I don't like that gesture*". Her reliance on communication using the verbal style might prompt her to evaluate Carlos as being forgetful (see line 137, extract 10.52). This tendency is also apparent in extract 10.52 where she plans the day with Carlos. She makes suggestions which he repeats in turn. Patricia appears to accept his responses as his agreement with her. In Line 150, Carlos is observed to 'look away' which might be an indication of his displeasure or disagreement with the inferences made. His behaviour in this turn is avoidant in nature. Nonaccommodation by the communication partner was often a predictor for avoidant communication by the PWA.

*Extract 10.52*

|       |          |   |
|-------|----------|---|
| 145   | Patricia | ya. Then. Then what you were planning?  |
| 146   | Carlos   | (( <i>looks intently at the CP</i> )) sss: (( <i>extends hand with palm facing upwards and fingers spread out and partially curled inwards</i> )) |
| 147   | Patricia | for today   |
| 148   | Carlos   | come on (( <i>extends hand with palm facing upwards and fingers spread out and partially curled inwards</i> ))                                    |
| 149   | Patricia | nothing (( <i>shakes head</i> ))  |
| 150   | Carlos   | nothing (( <i>looks away</i> ))   |
| (...) |          |   |

|       |          |             |
|-------|----------|-------------|
| 153   | Patricia | eating ?    |
| 154   | Carlos   | eating      |
| 155   | Patricia | sleeping ?  |
| 156   | Carlos   | sleeping    |
| (...) |          |             |
| 159   | Patricia | that's all? |
| 160   | Carlos   | that's all. |
| 161   | Patricia | ya?         |

In the conversation recorded during the baseline prior to CPT, Patricia was observed to be accommodative in 17% of her turns mainly using discourse management strategies in the form of yes-no or forced alternative questions. She was observed to demonstrate nonaccommodation in 100% of her turns which included instances of underaccommodation and overaccommodation. The accommodation observed in 22% of Carlos' turns was largely made up of attempts to converge to the spoken style of communication used by Patricia. However, in many of these turns, his responses were verbal repetitions. In 68% of his turns, his attempts to accommodate appeared to be constrained by his aphasia. Constrained accommodation was observed in his use of convergence to the tasks initiated by Patricia. He was observed to accommodate reluctantly in 3% of his turns and was observed to avoid communication in 8.33% of his turns. This avoidance was associated with the repeated use of test questions and patronising behaviour in Patricia's turns. Carlos' communicative behaviour in 73% of his turns, exhibited unavoidable nonaccommodation mainly owing to his inability to adjust because of his aphasia.

**Table 10.34 Summary of the adjustments observed in the baseline conversations between Pavan and Chirag**

|    |          | Accommodation | Constrained Accommodation | Reluctant Accommodation | Nonaccommodation | Unavoidable Accommodation | Avoidance Communication |
|----|----------|---------------|---------------------------|-------------------------|------------------|---------------------------|-------------------------|
| B1 | Patricia | 16.93%        | -                         | -                       | 100%             | -                         | -                       |
|    | Carlos   | 21.67%        | 67.5%                     | 2.5%                    | 0.83%            | 73.33%                    | 8.33%                   |

#### 10.6.2.2 *Following conversation partner training*

In the conversation following partner training, Patricia is observed to engage in the use of supportive strategies such as keywords to support Carlos' ability to respond to and participate in conversation. This conversation occurred one day following CPT and Patricia has had limited opportunity to incorporate the learned strategies into her communication with Carlos.

In extract 10.53, Patricia is discussing what events are coming up in the month of December—specifically Carlos's birthday and Christmas. In lines 27-46 she still appears to pose her questions to Carlos as 'test-questions' including some amount of practice repetition observed in lines 30-35 which she engages with as she writes down keywords. As also observed in other dyads, here, accommodative interpretability and discourse management behaviour through the use of 'taught CP-strategies', is demonstrated by the CP in the context of nonaccommodation—the use of test questions and practice tasks. In line 47, Patricia asks Carlos whether it is Christmas or his birthday that he prefers. She

provides him with keywords to respond accurately and in this way accommodates to his expressive needs by use of discourse management strategies.

*Extract 10.53*

|    |          |   |
|----|----------|---|
| 27 | Patricia | okay. See now, next month is what ? (.) Christmas !   |
| 28 | Carlos   | Christmas (( <i>nods head</i> ))  |
| 29 | Patricia | December  |
| 30 | Carlos   | cember (( <i>nods head</i> ))   |
| 31 | Patricia | Which month? (( <i>writes key word- december</i> ))   |
| 32 | Carlos   | (( <i>mumbles. Unintelligible speech- but appears to attempt to repeat 'december'</i> ))  |
| 33 | Patricia | december. (( <i>continues to write key word</i> )) which month?   |
| 34 | Carlos   | December (( <i>reading the key word</i> ))  |
| 35 | Patricia | December (( <i>nods her head; tone of voice is that used when conveying one is right. Marks a tick along-side the key word to acknowledge PWAs</i> )) |
| 36 | Carlos   | (no specific response)  |
| 37 | Patricia | and in December what all is coming? (( <i>pauses and looks up at PWA</i> ))   |
| 38 | Carlos   | (( <i>folds four fingers together over his thumbs as though holding an object</i> )) (cards)  |
| 39 | Patricia | £Ralph's birthday. (( <i>writes down key word, looks up at the PWA</i> )) £hah  |
| 40 | Carlos   | (( <i>imitates CPs laugh</i> ))   |
| 41 | Patricia | (( <i>writing down key word</i> )) What is coming? Birthday (( <i>still writing</i> )) (0.3)  |
| 42 | Carlos   | (( <i>looks at CP</i> )) Birthday   |
| 43 | Patricia | Yes. Then comes? (( <i>writing key words</i> )) Christmas   |
| 44 | Carlos   | Christmas (( <i>shakes fist</i> ))  |
| 45 | Patricia | ohhh: £Happy Day (( <i>writing key words</i> ))   |
| 46 | Carlos   | happy Day   |
| 47 | Patricia | So which day you like more (( <i>eyes fixed on the paper, points to both key words while reading them aloud</i> )) your birthday or Christmas         |
| 48 | Carlos   | Ah (( <i>points to keyword indicating birthday repeatedly</i> )) £Christmas   |
| 49 | Patricia | ohhh Christmas (( <i>nods head, points to keyword indicating Christmas</i> )) you £like? (.) ohhh: (( <i>marking a tick on Christmas</i> ))           |
| 50 | Carlos   | (( <i>clicks tongue indicating she is incorrect; points towards the key word 'birthday'</i> ))  |
| 51 | Patricia | ohhhh (( <i>sounding excited, surprised and happy that PWA corrected her</i> )) birthday?   |
| 52 | Carlos   | ahhhh (( <i>noding head in agreement</i> ))   |
| 53 | Patricia | £You like birthday? (( <i>points to keyword 'birthday'</i> )) £Ohh What special on birthday?  |

Patricia's change in style to incorporate the use of non-verbal communicative supports is evidence of convergence to her husband's communication abilities. Carlos promptly points to the keyword indicating 'birthday' but verbally repeats 'Christmas'—the last word in Patricia's preceding statement (line 47). Her communicative behaviour in this instance is partially divergent as she shifts from the use written supports in communication to attending to verbal output while not acknowledging Carlos' non-verbal output. She marks the keyword 'Christmas' on the sheet of paper being used to support their conversation which is accommodative in terms of discourse management— it acts as a communication ramp allowing Carlos to confirm and verify his response. Carlos, aware of Patricia's misinterpretation, has an opportunity to correct her owing to the presence of the written

supports. He corrects her by clicking his tongue (a common way to express disagreement or disinterest specific to the cultural context of India) and points to the keyword indicating 'Birthday' (line 50). Realising her mistake, Patricia accepts his correction, and continues to probe further about why he likes his birthday over Christmas in the turns following. This interaction demonstrates how the use of 'supportive strategies' supported Carlos and Patricia to share responsibility for the instance of miscommunication and collaboratively engage in successful transaction of information—in this instance, Carlos' preferences.

Following this exchange, Patricia appears to gain insight into the importance of the nonverbal supports and displays increased use of nonverbal supports as the conversation progressed. In extract 10.54, she is more attentive to Carlos's nonverbal cues (accommodative interpretability strategies) such as pointing to written keywords (line 70-71), his use of gestures and facial expressions (lines 76-81). Patricia's attention to Carlos's non-verbal cues to facilitate meaningful exchange of information is evidence of her use of accommodative discourse management strategies. It is their first time using supportive strategies so the excited tone is indicative of an element of surprise, excitement and joy of being able to participate in an exchange of information that extends beyond communication of basic needs. In line 81, Patricia explicitly acknowledges his input and transaction of information 'that's good' with visible satisfaction evidenced in her smile and laughter.

*Extract 10.54*

|    |          |   |
|----|----------|---|
| 67 | Patricia | [which you like most?]  |
| 68 | Carlos   | [ ((raises hand with palm facing the CP. Maintains eye contact)) ]  |
| 69 | Patricia | Cake or good food? ((pointing at the key words with the pen))   |
| 70 | Carlos   | ah ((pointing to the key word 'cake')) first first  |
| 71 | Patricia | £Ohhoo (hhh) ((happy and excited tone of voice)) you like ca:ke?  |
| 72 | Carlos   | ((Looks Up at CP listening))  |
| 73 | Patricia | that's why you were happy for birthday ? ((excited tone of voice, points to the keyword Birthday))  |
| 74 | Carlos   | (ya)  |
| 75 | Patricia | Why Christmas ((points to the keyword 'Christmas')) also there is cake  |
| 76 | Carlos   | yeah yeah ((frowns, facial expression indicating disinterest in the item. Shakes and flaps hand outwards; RI: 'forget that' or 'not as good'))                  |
| 77 | Patricia | but that ((points to keyword indicating Christmas ((points to keyword indicating 'Christmas')) is not good? ((frowns, shakes head))                             |
| 78 | Carlos   | Naw ((shakes head, frowns & Shakes and flaps hand outwards))  |
| 79 | Patricia | ((pointing to cake while maintaining eye contact, complimenting verbal expression with head nod)) oh birthday cake you like more.((check marks keyword 'cake')) |
| 80 | Carlos   | cake ((folds fingers in and gives a 'thumbs up' sign accompanied by head nod))  |
| 81 | Patricia | ohh: £That is good (hhh) ((compiling communication sheets and laughing))  |

In extract 10.55, Patricia asks Carlos if he would like to do some shopping ahead of his birthday. He uses his facial expressions and hand gestures to indicate that he is not interested in doing so. She enquires as to whether he would accompany her shopping to which Carlos agrees. In lines 125, 127 and 129, Carlos uses verbal output along with gestures and head movements to indicate that his readiness to accompany Patricia for her shopping. Patricia asks him what coloured sari he would like to buy her. Carlos responds using gestures (accommodative interpretability strategies) and also converging to the verbal

modality using repetition in line 139. In lines 144-148, Patricia is observed to use keywords to write down the different options of colours one at a time, at each point checking with Carlos if it is his preferred colour. Carlos discounts the colour 'red' by clicking his tongue. In line 149, he points to the keyword 'yellow', and uses head movement and verbal output to indicate that he would like to buy her a yellow sari.

*Extract 10.55*

|       |          |  |
|-------|----------|--|
| 124   | Patricia | So you will come with me for shopping?   |
| 125   | Carlos   | Shopping (.) (( <i>partially raises hand with four fingers held together almost parallel to the thumb, indicating 'some or a little'; nods head indicating yes</i> )) yea. |
| 126   | Patricia | For me to buy one nice Saree ?   |
| 127   | Carlos   | yeaa yeahh (( <i>partially raises hand with four fingers held together almost parallel to the thumb, indicating 'some or a little'; nods head indicating yes</i> ))        |
| 128   | Patricia | You'll buy?  |
| 129   | Carlos   | buy buy (( <i>partially raises hand with four fingers held together almost parallel to the thumb, indicating 'some or a little'; nods head indicating yes</i> ))           |
| (...) |          |  |
| 138   | Patricia | Which colour you'll buy for me ? (( <i>pauses for response and looks up maintaining eye contact through conversation</i> ))  |
| 139   | Carlos   | (( <i>maintaining eye contact; smiling; partially raises hand with four fingers held together almost parallel to the thumb, indicating 'some or a little'</i> )) Colour    |
| (...) |          |  |
| 144   | Patricia | (( <i>writes keywords</i> )) Red saree (( <i>writing keywords</i> )) hmm Red saree? (( <i>looks up explicitly initiating eye contact with him. pauses for response</i> ))  |
| 145   | Carlos   | (( <i>clicks tongues indicative of his disinterest in the suggested colour</i> ))  |
| 146   | Patricia | No? okay (.) then yellow colour (( <i>pulls fresh sheet to write key word</i> )) (0.3)   |
| 147   | Carlos   | (( <i>looks around, at CP and then at paper for keyword being written</i> ))   |
| 148   | Patricia | Yellow? (( <i>writing key word</i> ))  |
| 149   | Carlos   | ahh correct, (( <i>nods head and pointing to the keyword 'yellow'</i> ))   |
| 150   | Patricia | Yellow saree you want to buy (( <i>points to key word</i> ))   |
| 151   | Carlos   | (( <i>nodding head in agreement</i> ))   |
| 152   | Patricia | So you're going to buy (( <i>marking the specific keyword</i> )) yellow saree for me? (( <i>making eye contact to watch for response</i> ))                                |
| 153   | Carlos   | (( <i>nods head in agreement</i> ))  |
| 154   | Patricia | Yaa? So (( <i>marking keyword</i> )) okay (0.2) (( <i>looking up at PWA smiling</i> )) that is my fa:vourite colour.   |

Lines 152 and 154 are evidence of Patricia's satisfaction in finding out that Carlos knows her favourite colour but also their ability to engage is a meaning and successful exchange of information that extends beyond needs-based communication.

In the conversation recorded following CPT, Patricia was observed to incorporate the trained strategies into conversation to support Carlos's expression. She was observed to use accommodative interpretability and discourse management strategies such as the use of written keywords to support Carlos's expression and contribution to the topic discussed. Convergence to the style of Carlos's responses was observed to increase as she realised

the impact of the accommodation in her turns on Carlos's ability to participate in the conversation. Patricia was observed to demonstrate accommodation in these ways in approximately 99% of her turns. She continued to demonstrate instances of nonaccommodation in 32% of her turns which was in terms of discourse management and interpersonal control strategies such as, not acknowledging Carlos's non-verbal responses in some of her turns as well as the continued use of 'elder-speak'. Carlos demonstrated increased participation and engaged successfully with the non-verbal supports used by Patricia. He was observed to be accommodative in 21% of his turns and his adjustments were observed to be constrained in 88% of his turns which were associated with his aphasia.

**Table 10.35 Summary of the adjustments observed in the follow-up conversations between Patricia and Carlos**

|    |     | Accommodation | Constrained Ac | Nonaccommodation | Unavoidable Ac | Avoidance Communication |
|----|-----|---------------|----------------|------------------|----------------|-------------------------|
| F1 | CP  | 99%           | -              | 32%              | -              | -                       |
|    | PWA | 21%           | 88%            | -                | 20%            | -                       |

### 10.6.3 Summary of dyad 14

A significant impact of CPT-In was observed in the follow up conversation involving dyad 14 particularly in terms of an increase in Patricia's skills in supporting conversation. An increase in the number of instances of accommodation observed in Patricia's turns from 17% to 99% following CPT-In. CPT-In also had an impact on the nonaccommodation in Patricia's turns with a reduction from 100% of nonaccommodative turns in the baseline conversation to 32% in the follow up conversation. The impact on Patricia's communication skills was also evidenced in terms of a statistically significant improvement on the (M)SCA scale. Patricia continues to communicate with a patronising tone (characterised by infantilizing tone) which she reported (off record)<sup>7</sup> as having difficulty altering as it had become habitual in her conversations with Carlos following his stroke. This overaccommodation, could be associated with viewing Carlos as less competent evidenced in some of the statements made by Patricia (see line 137, extract 10.51) as well as in her use of test-questions (see extracts 10.49, 10.51).

Some improvement was also observed in Carlos's turns in terms of an increase in his attempts to accommodate. A reduction in the number of instances of nonaccommodative communication behaviour is demonstrated in the follow up conversation. The number of instances of unavoidable nonaccommodation observed to be reduced from observations in 73% of his turns in the baseline conversation to 20% of his turns in the follow up conversation. No instances of avoidance communication were observed in the follow up conversation. Table 10.36 summarises the changes in adjustment observed across the baseline and follow up sessions for dyad 14.

<sup>7</sup> Dyad 14 was the dyad used in the pilot study and no interview data is available.

**Table 10.36 Summary of adjustments made across baseline and follow up sessions for dyad 14**

| Interlocutor | Nature of Adjustment | Type of Adjustment      | B1    | FU 1 |
|--------------|----------------------|-------------------------|-------|------|
| Patricia     | Facilitative         | Accommodation           | 17%   | 99%  |
|              | Obstructive          | Nonaccommodation        | 100%  | 32%  |
| Carlos       | Facilitative         | Accommodation           | 22%   | 21%  |
|              |                      | Constrained Ac          | 68%   | 88%  |
|              |                      | Reluctant Ac            | 3%    | -    |
|              | Obstructive          | Nonaccommodation        | 1%    | -    |
|              |                      | Unavoidable Ac          | 73%   | 20%  |
|              |                      | Avoidance Communication | 8.33% | -    |

### 10.7 Summary

This chapter explored how the adjustments manifested in conversation and the impact of CPT-In on the nature of adjustment in communication for 6 dyads. Of the 6 dyads who participated in CPT, 3 dyads (dyads 1, 2 and 14) demonstrated statistically significant improvement in conversation. This improvement appeared driven largely by scores of the partners skill in supported conversation measure by the (M)SCA), with 2 of the dyads (dyads 1 and 14) showing improvement in this scale but not in the (M)PCA. The change in the (M)SCA is in-keeping with the fact that the intervention addressed only the skills of the communication partner, with no intervention provided to the PWA. Dyad 4 demonstrated a slight improvement in conversation on visual analysis on the data, but the results were not statistically significant. Dyad 5 demonstrated an improvement on visual analysis of the (M)SCA but this was not statistically significant, there was no improvement in the (M)PCA.

In both the baseline and follow up conversations, accommodative and nonaccommodative adjustments occurred together in a vast number of turns across all dyads. Improvements in the nature of adjustment in conversation, by way of increased instances of accommodative behaviour and decreased instances of nonaccommodative communicative behaviour in the turns of the communication partner was observed in dyads 1, 2, 5 and 14. These dyads also demonstrated an improvement in the conversation overall. For all of these dyads the improvement in the CPs communication also resulted in increased participation of the partner with aphasia by way of increase in the facilitative adjustments (accommodation, constrained accommodation) observed in conversation and a significant decrease in the instances of obstructive communicative behaviour (nonaccommodation, unavoidable nonaccommodation and avoidance communication). In dyads 1, 2 and 5, the number of attempts to accommodate that were constrained owing to the aphasia were observed to reduce with an increase in successful attempts at accommodation. CPT-In did not appear to have an impact on the communication in dyads 3 and 4.

A transition was also observed in the nature of adjustment across dyads 1, 2, 5 and 14, from a focus on approximation strategies such as convergence, divergence and maintenance (language used, verbal style of communication) to a focus on discourse management to support expression (use of written supports, yes/no questions, deviation from response request sequences to discussion of feelings, healthcare, shopping, interests) of and interpretability strategies to support comprehension of the messages conveyed (use of gestures, pointing, symbols and written supports). Dyads 3 and 4 however continued to

demonstrate instances of request response sequences and instances of 'train the PWA' both of which are nonaccommodative and contrary to the aims of CPT-In. While in dyad 3, this was focused on teaching the PWA strategies to communicate, in dyad 4, the focus was on improving the skills of listening, reading and conversation that were impaired following the aphasia. This pervading tendency to 'train' was also occasionally observed in dyads 1, 2 and 14 and might be reinforced by the concept of unilaterally 'training CPs' and warrants further consideration. Although improvements were seen in some dyads, there was still some amount of disruptiveness to the overall flow of natural conversation. CPs appeared to have difficulty integrating the use of conversational supports in a natural conversational manner. This may be attributed to the follow ups being done in the initial stages. One specific challenge that appears to recur is the placement of the sheet when writing. CPs were observed to take the sheet towards them write the keywords and then move it towards the PWA to read and respond to. This was observed to be particularly disruptive in dyad 5. In some instances, as observed in Dyads 1 and 2, CPs were observed to insist on use of written strategies despite comprehending the message conveyed by the PWA using meaningful gestures.

Overall, the findings from this chapter suggest that CPT-In has a positive impact on conversations involving people with aphasia in the Indian context. However, dyad specific factors may influence the extent to which the strategies are adopted.



## 11 Impact of aphasia and CPT-In on quality of life and sense of coherence

This chapter describes the impact of communication partner training on the person with aphasia in terms of reported quality of life and on the family members in terms of their sense of coherence. In order to contextualise the findings, the scores of all dyads (including those who did not participate in CPT-In) are presented, alongside the changes in scores across baseline and follow-up timepoints. The quality of life of the PWA was measured using the standardised Stroke and Aphasia Quality of Life- 39 item Scale (SAQOL-39 Hilari et al., 2003) and the Kannada version of the Stroke and Aphasia Quality of Life- 39 item Scale (Kannada SAQOL-39 Kiran & Krishnan, 2013). In the first section of this chapter, the stroke and aphasia quality of life of the 13 people with aphasia who completed the SAQoL is described (see section 11.1). The SAQoL scores following CPT-In for the 6 dyads are then analysed using weighted statistics. Sense of coherence was measured using the original English version (Antonovsky, 1993) with one item adapted to suit the cultural and linguistic context of India and which is consistent with the Kannada version of the SOC-13 scale that was culturally and linguistically adapted for use in this study (see chapter 7). In section 11.2, the sense of coherence of the family members from the 13 dyads who completed this scale is described. The chapter then turns to focus on the 6 dyads who were involved in CPT-In, again using weighted statistics to analyze changes in SOC. The chapter closes with a summary of the findings described.

Dyads 1-6 completed SAQOL and SOC pre and post CPT-In and their scores are comparable as follows. A small shift was observed from the mean baseline QoL score of the overall sample (P1-P13)—2.64 to the mean follow-up QoL score of the pWA in dyads 1-6 which was 3.04. An even higher shift in the objective QoL was observed for the communication domain of the SAQOL-39 measure. A shift was seen from the overall baseline sample mean of 1.81 for dyads 1-13 to a mean of 2.97 for dyads 1-6 during the follow-up phase. Similarly, while the mean baseline SOC score of the overall sample (P1-P13) was 58.10, the mean follow-up SOC score of the pWA in dyads 1-6 was 63.54 suggesting a general improvement in the QoL and SOC following exposure to CPT.

### 11.1 Stroke and Aphasia Quality of Life (SAQOL)

The overall impact of the stroke and aphasia on the quality of life of the 13 participants with aphasia on whom the Kannada SAQOL-39 was administered ranged from moderate (3.69) to severe (1.63), the mean across participants was 2.64 (standard deviation of 0.49). The *communication* and *psychosocial* related QOL appeared to be the most severely affected for all but two of the participants, indicating that these domains contributed substantially to the reduced QoL reported. The communication related QOL scores ranged from 2.77 (moderately affected) to 1.2 (severely affected) with mean and standard deviation of 1.81 ( $\pm 0.44$ ). The communication related QoL was severely affected in 92.31% (n=12) of the pWA. For the psychosocial domain of the SAQOL-39, the scores ranged from 2.73 (moderately affected) to 1.73 (severely affected) with a mean and standard deviation of 2.3 ( $\pm 0.45$ ). For most participants, psychosocial related QOL was also severely affected—76.92% (n=10). The energy related QOL was also found to be severely affected in 69.23% (n=9) of the participants.

**Table 11.1 Stroke and Aphasia Quality of Life (SAQOL-39) (Hilari et al., 2003) for participants 1 - 13**

| Dyad no.                         | PWA          | No. of baselines | Physical Qol | Communi-cation Qol | Psycho-social Qol | Energy      | Mean        |
|----------------------------------|--------------|------------------|--------------|--------------------|-------------------|-------------|-------------|
| 1                                | Chet*        | 3                | 3.2          | 2                  | 2.34              | 2.5         | 2.66        |
| 2                                | Chandrak*    | 3                | 4.15         | 1.39               | 1.79              | 2.08        | 2.81        |
| 3                                | Chaitali*    | 3                | 2.52         | 1.42               | 2                 | 2.33        | 1.89        |
| 4                                | Charuhaas    | 3                | 2.87         | 2.77               | 2.73              | 2.83        | 2.83        |
| 5                                | Chirag       | 3                | 1.37         | 1.2                | 2.17              | 2           | 1.63        |
| 6                                | Charvi*      | 2                | 3.53         | 2.15               | 2.32              | 3           | 2.88        |
| 7                                | Chitesh*     | 3                | 4.55         | 1.71               | 1.73              | 3.75        | 3.16        |
| 8                                | Chetak       | 2                | 4.05         | 2.02               | 2.69              | 2.09        | 3.19        |
| 9                                | Chandraraaj* | 2                | 3.27         | 1.86               | 2.2               | 2.25        | 2.6         |
| 10                               | Charun*      | 1                | 2.23         | 1.86               | 2.63              | 1.5         | 2.21        |
| 11                               | Coshel*      | 1                | 3.12         | 1.29               | 1.82              | 2           | 2.31        |
| 12                               | Chinna       | 1                | 3.6          | 2.28               | 2.18              | 1.36        | 2.97        |
| 13                               | Chetana*     | 1                | 4.9          | 1.6                | 3.3               | 2           | 3.14        |
| <b>Mean (standard deviation)</b> |              |                  | 3.34 (0.97)  | <b>1.81 (0.44)</b> | 2.3 (0.45)        | 2.28 (0.63) | 2.64 (0.49) |
| <b>Min</b>                       |              |                  | 1.37         | 1.2                | 1.73              | 1.36        | 1.63        |
| <b>Max</b>                       |              |                  | 4.9          | 2.77               | 3.3               | 3.75        | 3.19        |

|        |                         |
|--------|-------------------------|
| 1 or 2 | Severely affected QOL   |
| 3      | Moderately affected QOL |
| 4      | Mildly affected QOL     |
| 5      | Normal QOL              |

\*Kannada SAQOL-39 (Kiran & Krishnan, 2013); Dyads 1-6 subsequently participated in CPT-In, Dyad 14 did not complete the SAQoL.

No relationship between the SAQOL-39, and the severity of the aphasia as measured on the WAB were noted (Figure 11.1). This is in contrast to some literature which has suggested significant association between the severity of communication impairment and the QoL (Bullier et al., 2020; Kariyawasam et al., 2020; Rangamani & Judovsky, 2020). However, evidence suggests that there are other external factors unaccounted for in this study, such as fatigue (Bullier et al., 2020) and “broader life quality issues” particularly for adults (Cruice et al., 2010, p. 342) which may impact and influence the perceived QoL.

Visual analysis of the data indicated no association between the (M)SCA or the (M)PCA and aphasia severity based on the WAB Aphasia quotient (see fig 11.2). Similarly, there was no indication of a relationship between the performance in conversation (assessed using the Kagan scales) and communication related quality of life (assessed based on the communication domain of the SAQOL-39) (see figure 11.3).

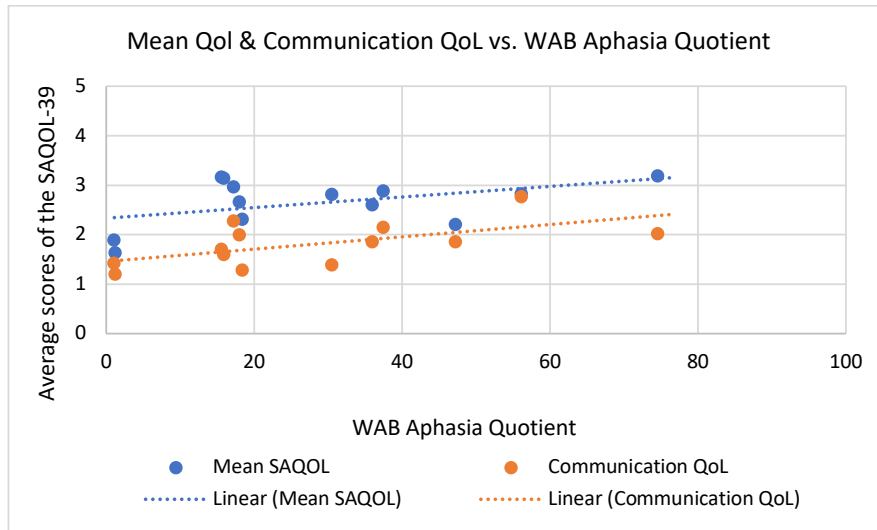


Figure 11.1 Communication QOL versus WAB Aphasia Quotient

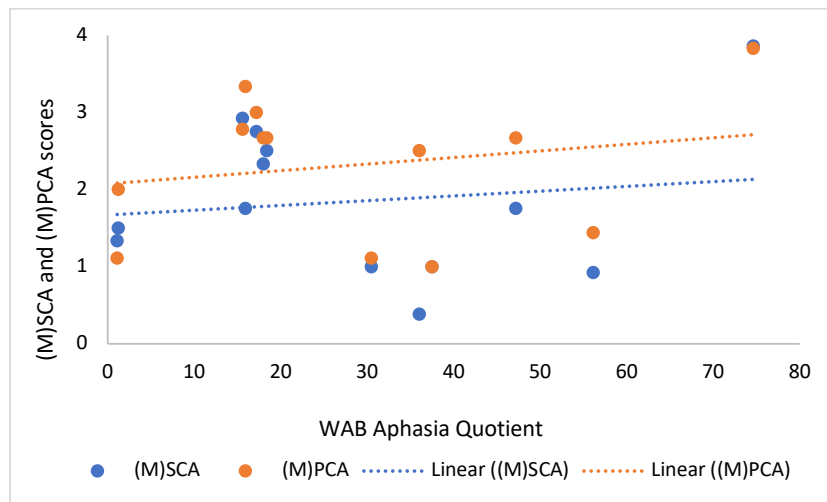


Figure 11.2 (M)SCA and (M)PCA vs WAB Aphasia Quotient

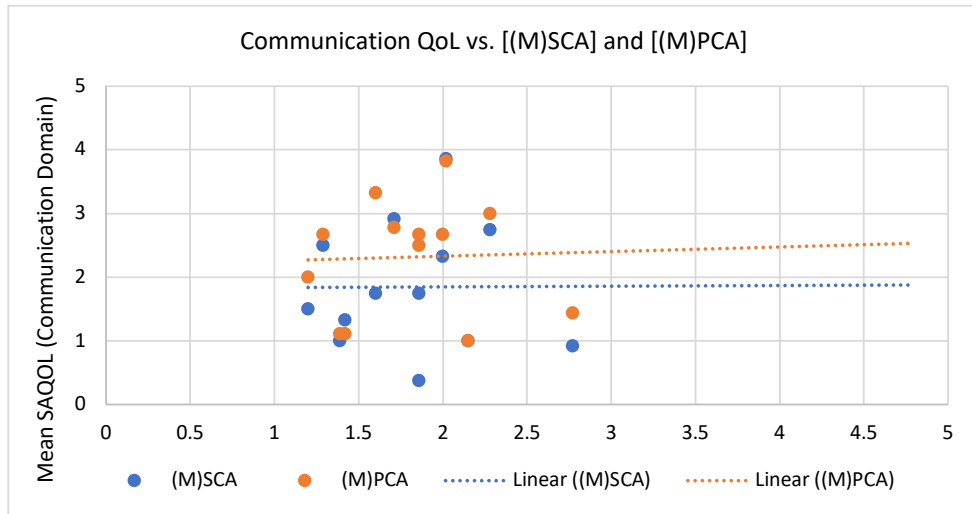


Figure 11.3 Communication QOL versus [(M)SCA] and [(M)PCA]

### 11.1.1 Impact of CPT-In on SAQoL

For the 6 dyads in which the SAQoL was administered in the baseline and follow-up phases, an analysis of the change in scores was undertaken. A significant upward trend in the quality of life associated with stroke and aphasia is seen in 66.66% (n=4) of the participants with aphasia. However, only 3 of the participants with aphasia demonstrate a statistically significant difference in their SAQoL following CPT-In for their primary caregivers. Similarly, a significant upward trend was seen in the communication domain of the SAQoL in 5 of the 6 of the participants. A statistically significant difference in the communication related QoL however, was only seen in 3 of the participants. The results of the one-sample t-tests for identifying the differences in the rate of change and trend in quality-of-life scores prior to and following CPT are shown in table 11.2 (the weighted scores can be found in appendix 11). The table also includes the effect sizes following CPT calculated using Busk and Serlin's d-statistic ( $d_{BS}$ ).

The data from Chet's scores (P 1) demonstrates an upward trend (WEST-Trend  $p = 1.108 \times 10^{-6}$ ), however there isn't a significant rate of change in the SAQoL following CPT-In based on WEST-ROC analysis and therefore the intervention cannot be said to have had a significant impact. P1 demonstrates an effect size of  $d_{BS} = 3.928$  which demonstrates a medium effect size based on the very limited literature available on ES in aphasia but not specific to CPT (Beeson & Robey, 2006). The lowest follow-up scores for P1 ( $SAQoL_{MEAN} = 3.;$   $SAQoL_{communication} = 2.71$ ), remains higher than the highest baseline scores ( $SAQoL_{MEAN} = 2.92;$   $SAQoL_{communication} = 2.43$ ). This upward trend in performance is also evident in the visual analysis of the data on Chet's scores on both the mean QoL and the communication related QoL in fig 11.3.

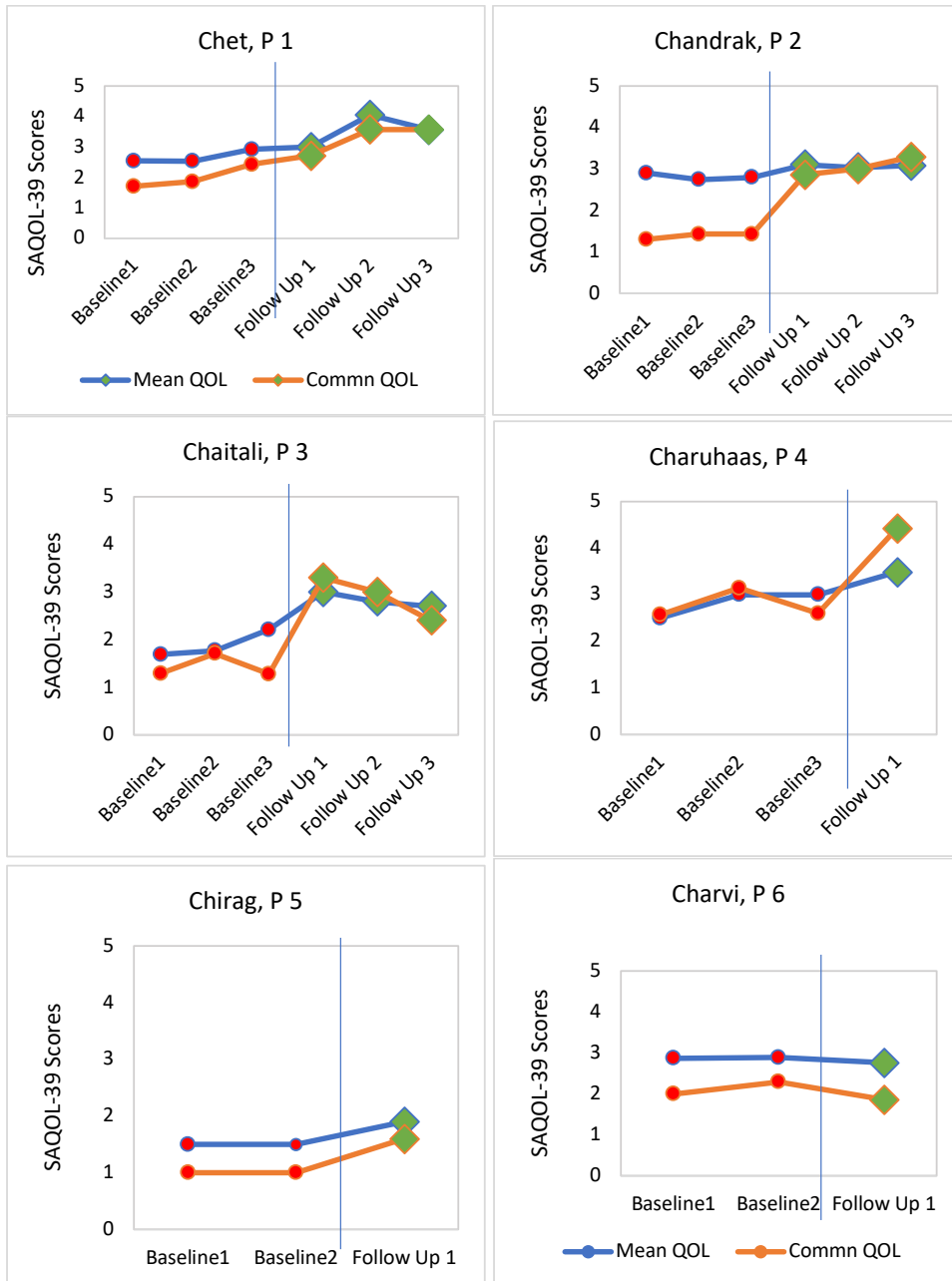
**Table 11.2 Impact of Training primary caregivers on the quality of life of the participants with aphasia as measured using the SAQOL-39 (Kannada Version) (Kiran and Krishnan, 2013).**

| Participant  | Sum ROC p-value          | Sum Trend p-value      | ES $d_{BS}$ | Comment                                 |
|--------------|--------------------------|------------------------|-------------|---|
| P1 Mean QoL  | 0.5005                   | <b>1.108</b> $e^{-06}$ | 3.928       | No statistically significant difference |
| P1 Commn QoL | 0.8412                   | <b>0.001232</b>        | 3.378       | No statistically significant difference |
| P2 Mean QoL  | 0.1268                   | 0.3748                 | 3.175       | No statistically significant difference |
| P2 Commn QoL | 0.1035                   | <b>0.007669</b>        | 22.161      | No statistically significant difference |
| P3 Mean QoL  | <b>&lt;2.2</b> $e^{-16}$ | <b>3.37e</b> $e^{-05}$ | 3.369       | Statistically significant difference    |
| P3 Commn QoL | <b>0.02547</b>           | <b>0.001197</b>        | 6.003       | Statistically significant difference    |
| P4 Mean QoL  | <b>&lt;2.2</b> $e^{-16}$ | <b>2.27</b> $e^{-05}$  | 1.625       | Statistically significant difference    |
| P4 Commn QoL | <b>6.612</b> $e^{-05}$   | <b>2.629</b> $e^{-4}$  | 5.175       | Statistically significant difference    |
| P5 Mean QoL  | <b>5.658</b> $e^{-3}$    | <b>5.658</b> $e^{-3}$  | N/A         | Statistically significant difference    |
| P5 Commn QoL | <b>0.03002</b>           | <b>0.03002</b>         | N/A         | Statistically significant difference    |
| P6 Mean QoL  | 0.3626                   | 0.8602                 | -8.485      | No statistically significant difference |
| P6 Commn QoL | 0.2308                   | 1                      | -1.39       | No statistically significant difference |

Results from one sample t-tests carried out with 95% CI, alpha=0.05 and effect size calculations.

On visual inspection of the data from Chandrak's (P2) scores, there is a slight increase in the mean SAQOL scores following CPT with an effect size of  $d_{BS} = 3.175$ ; and a more evident increase in the communication related QoL, with a larger effect size ( $d_{BS} = 22.161$ ). The lowest follow up scores for P2 (SAQoL<sub>MEAN</sub> = 3.03; SAQoL<sub>communication</sub> = 2.86), remains higher than the highest baseline scores (SAQoL<sub>MEAN</sub> = 2.9; SAQoL<sub>communication</sub> = 1.43). The findings are partially supported by the significant upward trend in the scores on the communication domain of the SAQOL-39. However, the overall rate of change in performance on both the mean QoL and the communication related QoL is not statistically significant.

A statistically significant difference in the rate of change of the mean SAQOL is seen in the scores of Chaitali, Charuhaas and Chirag. Chaitali (P3), demonstrated a significant improvement in her overall SAQOL scores ( $p = <2.2e^{-16}$ ,  $d_{BS} = 3.369$ ), as well as in the communication domain ( $p = 0.02547$ ,  $d_{BS} = 6.003$ ) with a significant upward trend also observed in both the overall mean ( $p = 3.37e^{-05}$ ) and the communication domain ( $p = 0.001197$ ).



**Figure 11.4 Stroke and Aphasia Quality of Life among People with Aphasia pre- and post-CPT (dyads 1-6)**

Charuhaas (P4), demonstrated a significant improvement in his overall SAQOL scores ( $p = <2.2 \times 10^{-16}$ ,  $d_{BS} = 3.369$ ), as well as in the communication domain ( $p = 6.612 \times 10^{-5}$ ,  $d_{BS} = 5.175$ ) with a significant upward trend also observed in both the overall mean ( $p = 2.27 \times 10^{-5}$ ) and the communication domain ( $p = 2.629 \times 10^{-4}$ ). A significant improvement in the rate of change in SAQOL and the communication domain of the QoL ( $p = 5.658 \times 10^{-3}$  and  $p = 0.03002$ ) as well as an upward trend in improvement of the SAQOL and the communication related QoL ( $p = 5.658 \times 10^{-3}$  and  $p = 0.03002$ ) following CPT is also evident for P5. However, owing to lack of variability across the two baselines and the occurrence of only one follow up evaluation,

calculation of the effect size was not possible using the standard methods described. However, by using the standard deviation of the combined baseline and follow up data, it could be estimated to be around  $d=1.73$ . Unlike participants P1-P5, Charvi (P6), appears to demonstrate a decline in the mean SAQOL scores following CPT-In (see fig. 11.1). The effect size for the impact of CPT for P6 is a negative value ( $d_{BS}=-8.485$ ) suggesting a reduction in the mean in the follow-up phase.

An increase in the scores of items 17 and 20 were observed across the follow up data when compared with the baseline data across dyads 1-5. Participants were observed to be more accepting of nonverbal modes of communication interaction, evidenced by its consideration in response to item 17– ‘speaking’, where some participants and their CPs (e.g., dyad 5) added that the improvement in communication was associated with increased functional communication. Improved scores were also seen for item 20 – ‘finding the word you wanted to say’ which may be associated with increased used of key words, increased attention by the CPs to the gestures used by the pWA and increased clarification of inferences made by the CPs as described in chapter 10. It must be noted however, that those participants that demonstrated a statistically significant improvement in their SAQOL-39 scores, although demonstrated an upward trend on visual analysis of their conversational scores as measured using the (M)SCA and (M)PCA scales, did not demonstrate a statistically significant improvement in their performance following CPT on analysis using weighted statistics. In addition, the pWA in dyads 3, 4 and 5 were all in the acute stage in contrast to dyads 1, 2 and 6 who were in the chronic stage. Improvement in the SAQOL-39 scores for dyads 3, 4 and 5 could therefore also be associated with some amount of spontaneous recovery.

### 11.2 Sense of coherence

The sense of coherence-13 item scale (SOC-13) (Antonovsky, 1993) was administered to 12 of the 14 dyads at the outset of the study. In table 11.3, the SOC score presented for each participating communication partner, is the mean of the overall SOC scores obtained from the baseline evaluations.

The total scores fell in the range of 38.5 to 70.5 indicating medium -low- to medium-high level of sense of coherence, suggesting that the stressors associated with the stroke and aphasia may have had some impact on the SOC of the caregivers however, however the SOC of the caregivers at present may be associated with general life circumstances and levels of satisfaction (Forsberg-Wärleby et al., 2002). For the purpose of this study, the scores were categorized into four quartiles as low (13-32.5), medium-low (32.5-52), medium-high (52-71.5) and high (75.1-91), based on Potier and colleagues (2018) who used a similar range in research exploring the sense of coherence in older spousal caregivers. Of the 13 communication partners who completed the assessment, 21.43% ( $n=3$ ) were found to have medium-low SOC, and 64.29% ( $n=9$ ) were found to have medium-high levels of SOC. Missing data accounted for the remaining 7.24% ( $n=1$ ) of the participants and was excluded from the analysis.

**Table 11.3 Sense of Coherence assessed with SOC-13 (reference)**

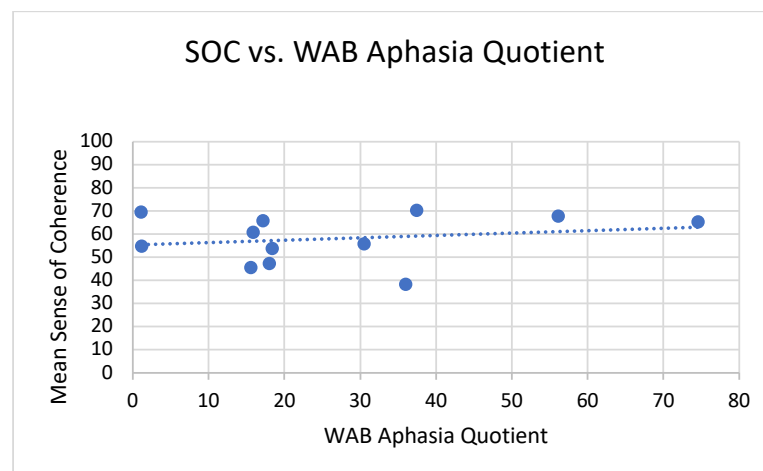
| Dyad no.                         | Communication Partner  | No. of Baselines | Relationship with PWA | SOC           |
|----------------------------------|------------------------|------------------|-----------------------|---------------|
| 1                                | Payal* <sup>1</sup>    | 3                | Sister                | 47.33         |
| 2                                | Paarth* <sup>1</sup>   | 3                | Son                   | 56            |
| 3                                | Pavmani* <sup>1</sup>  | 3                | Husband               | 69.67         |
| 4                                | Pritika                | 3                | Daughter              | 68            |
| 5                                | Pavan                  | 3                | Brother-in-law        | 55            |
| 6                                | Padam* <sup>1</sup>    | 2                | Son                   | 70.5          |
| 7                                | Padma * <sup>1</sup>   | 3                | Sister                | 45.67         |
| 8                                | Pallavi                | 2                | Wife                  | 65.5          |
| 9                                | Panbu* <sup>1</sup>    | 2                | Wife                  | 38.5          |
| 10                               | Panchavati*            | 1                | Wife                  | N/A*          |
| 11                               | Panisthi* <sup>1</sup> | 1                | Wife                  | 54            |
| 12                               | Pankaja                | 1                | Wife                  | 66            |
| 13                               | Preetham* <sup>1</sup> | 1                | Husband               | 61            |
| <b>Mean (standard deviation)</b> |                        |                  |                       | 58.10 (10.43) |
| <b>Min</b>                       |                        |                  |                       | 38.5          |
| <b>Max</b>                       |                        |                  |                       | 70.5          |

|         |                 |
|---------|-----------------|
| 13-32.5 | Low SOC         |
| 32.5-52 | Medium- Low SOC |
| 52-71.5 | Medium-High SOC |
| 75.1-91 | High SOC        |

\*Owing to time constraints and the Charun's (PWA) mood, Panchavati had requested to take the form and fill it out at home, to be returned during the following session. However, the participants withdrew from the study following the first baseline session resulting in the missing SOC data.

\*<sup>1</sup>SOC-13 (Adapted Kannada version)

Visualisation of the data indicated no association between SOC and the WAB AQ (fig 11.4) Participants, irrespective of severity (WAB AQ) appeared to fall under the medium-low to medium-high SOC range. This is in line with previous literature (Forsberg-Wärleby et al., 2002) which suggested significant association between the severity of the impairment and disability associated with stroke and the SOC of the caregivers.



**Figure 11.5 Sense of Coherence versus WAB Aphasia Quotient**



No indication of a relationship between SOC and the (M)SCA and (M)PCA was found (fig 11.5).

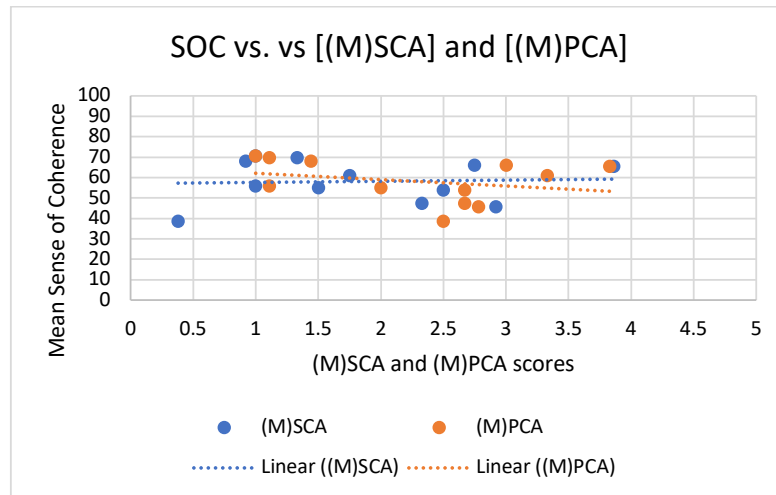


Figure 11.6 Sense of Coherence versus (M)SCA (M)PCA

### 11.2.1 Impact of CPT-In on SoC

For the 6 dyads in which the SoC was administered in the baseline and follow-up phases, an analysis of the change in scores was undertaken (the weighted scores can be found in appendix 11). The family member participants demonstrated no significant change in their sense of coherence following receiving CPT, based on the criteria of requiring a significant difference in both WEST-ROC and WEST-Trend (see table 11.4).

Table 11.4 Impact of Training primary-caregivers on their Sense of Coherence as measured using the SOC-13 item Scale.

| Participant | Sum ROC p-value             | Sum Trend p-value | ES $d_{BS}$ | Comment                                 |
|-------------|-----------------------------|-------------------|-------------|---|
| CP1         | 0.6577                      | 0.1569            | 5.485       | No statistically significant difference |
| CP2         | 0.4203                      | 0.8957            | -1.155      | No statistically significant difference |
| CP3         | 0.2228                      | 0.2674            | 3.576       | No statistically significant difference |
| CP4         | 0.3073                      | 0.5296            | -0.095      | No statistically significant difference |
| CP5         | <b>8.309<sup>e-07</sup></b> | 0.4571            | N/A         | No statistically significant difference |
| CP6         | 0.0821                      | 0.139             | 0.236       | No statistically significant difference |

Results from a one sample t-tests carried out with 95% CI and alpha=0.05

CP5 demonstrated a significant rate of change in the sense of coherence ( $p=8.309^{e-07}$ ) however no statistically significant trend from baseline to follow up was evident from the WEST-Trend calculation. For CP5, owing to lack of variability across the two baselines and the occurrence of only one follow up evaluation, calculation of the effect size was not possible using the standard methods described in this chapter. However, by using the standard deviation of the combined baseline and follow up data, it could be estimated to

be around  $d=2$ . The effect sizes for CP2 and CP4 (see table. 11.4) were negative values indicative of a decline in performance which is also evidenced on visual inspection of the mean SOC scores (see fig. 11.6).

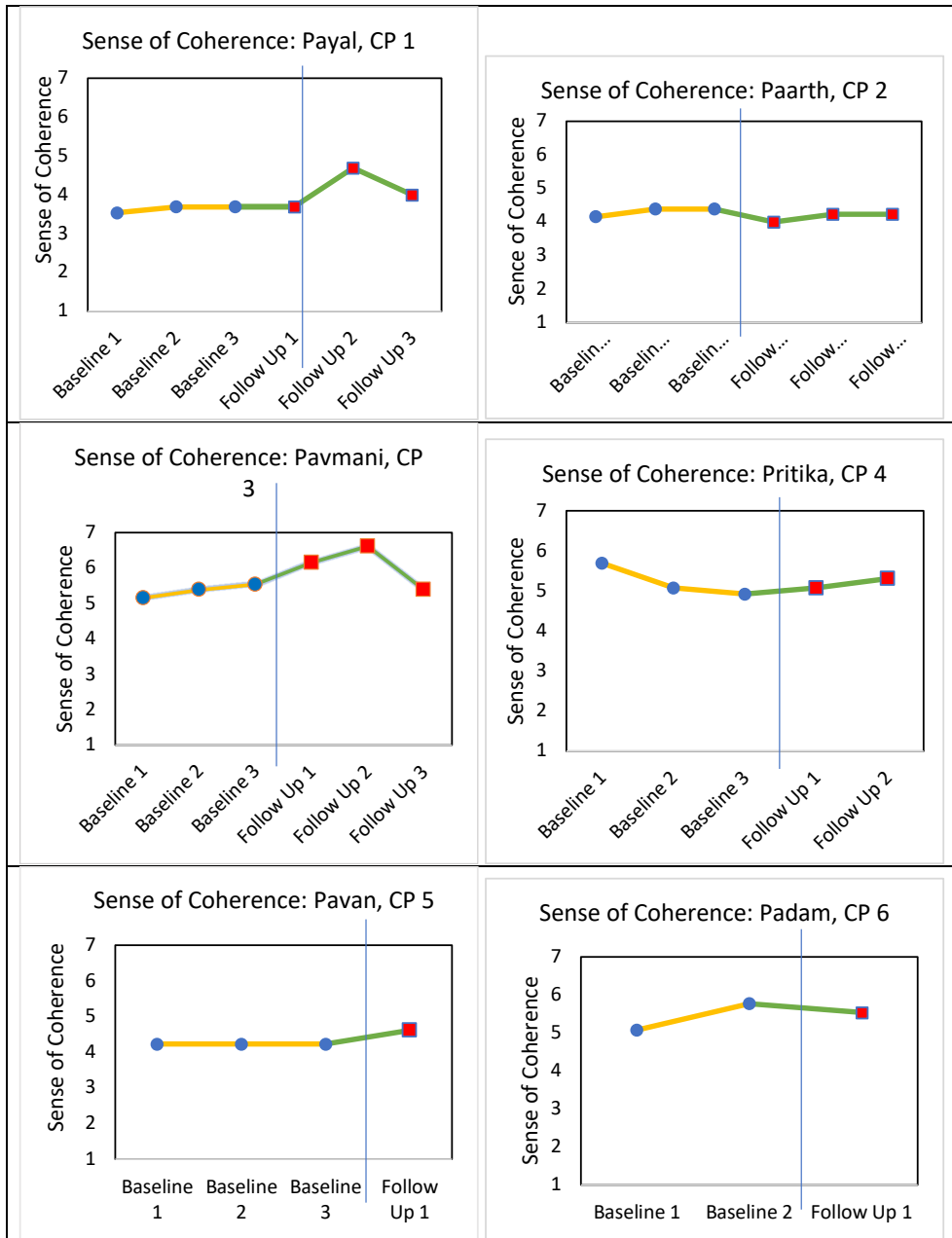


Figure 11.7 Sense of Coherence among communication partners pre- and post-CPT (dyads 1-6)

### 11.3 Conclusion

The findings suggest that aphasia has a negative impact on the quality of life of the people with aphasia with the communication and psychosocial domains of quality of life most severely affected. However, the findings suggested no clear relationship between the aphasia severity and the severity of the impact of aphasia on the communication domain of the stroke and aphasia quality of life. Findings from the sense of coherence of the primary caregivers described in section 11.2 suggest that the severity of the aphasia does not appear to be associated with the sense of coherence of the family members.

**Table 11.5 Summary of Improvement on the communication, quality of life and sense of coherence measures for dyads 1-6 and 14.**

|         | Kagan Scale (Total)                   | (M)SCA       | (M)PCA       | SAQOL | Communication QOL | SOC |
|---------|---------------------------------------|--------------|--------------|-------|-------------------|-----|
| Dyad 1  |                                       |              |              |       |                   |     |
| Dyad 2  |                                       |              |              |       |                   |     |
| Dyad 3  |                                       |              |              |       |                   |     |
| Dyad 4  |                                       |              |              |       |                   |     |
| Dyad 5  |                                       |              |              |       |                   |     |
| Dyad 6  | Missing data                          | Missing data | Missing data |       |                   |     |
| Dyad 14 |                                       |              |              | N/A   |                   |     |
|         | Statistically significant improvement |              |              |       |                   |     |
|         | No significant improvement            |              |              |       |                   |     |
|         | Decline                               |              |              |       |                   |     |

Of the 14 dyads, 6 dyads continued in phase two of the study and attended the CPT-In training provided. SAQoL changes were statistically significant for n=3 participants (pWA in dyads 3-5), indicating that for some people with aphasia, in this context, the brief CPT intervention offered may impact on QoL. Changes in the communication domain for these participants was greater than the changes to the overall QoL. However, it must be noted that the pWA in dyads 3, 4 and 5 were all in the acute stage. Improvement in the SAQOL-39 scores could therefore also be associated with changes related to spontaneous recovery. In contrast, none of the caregivers demonstrated a statistically significant change in their sense of coherence. There was also no improvement in the SOC indicated from visual analysis of the data. It could be suggested however, that sense of coherence being a complex phenomenon, may be influenced by an array of extraneous factors including general life-satisfaction (Forsberg-Wärleby et al., 2002) which are challenging to control.

It could be suggested from the findings of chapters 10 and 11, that CPT-In has increased impact in people with chronic aphasia as compared to those with acute aphasia. However, exposure to CPT-In, can demonstrate some improvement although not statistically significant in the communication of people with aphasia in the acute stage as seen in dyad 5 who participated in the study immediately following his stroke.

## **Section Four**

## 12 Addressing the impact of aphasia & CPT in the Indian context

This thesis explores the application of a culturally adapted Communication Partner Training (CPT) to the context of people with aphasia within the Indian context. In contrast to impairment-focused aphasia therapy, CPT involves training of individuals other than the PWA for whom rehabilitation is needed (Saldert et al., 2018). The goals of CPT are often associated with prompting behavioural change (Cruice et al., 2018), and the primarily explored outcome is often the projected impact on conversation (Saldert et al., 2018). While the CP may be considered a mediator in the process in some ways, the impact of CPT on the CP is also dependent on the PWA's response to the changed behaviour (*ibid*). In addition, this thesis explored the application of CPT within the complex novel context of India.

This study aimed to broaden the evidence base of CPT approaches to the rehabilitation of people in a majority world country such as India. The four objectives that this study was designed to achieve include—

1. To adapt the CONNECT Communication Partner Scheme's partner training modules for the primary caregivers of people with aphasia in India by identifying context-specific training and intervention needs of pWA and their family members
2. To analyse the efficacy of CPT for primary caregivers in facilitating successful interactions between pWA and their caregivers.
3. To analyse the impact of CPT for primary caregivers on the quality of life of the PWA.
4. To analyse the impact of CPT for primary caregivers on the sense of coherence of the primary caregivers.

In this chapter, the clinical and methodological implications of the study are discussed, beginning with the contributions to the literature on aphasia and communication partner training (section 12.1). The impact of CPT-In on dyadic interaction (section 12.2) wellbeing and quality of life (section 12.3) is then discussed. As this study was the first to explore the impact of CPT in the Indian context, the contextual challenges faced during implementation (section 12.4) and measuring the impact (section 12.5) of CPT-In are described to inform future research exploring CPT interventions within this, and other majority world contexts. The chapter ends with a summary of the clinical and methodological implications of the study.

### **12.1 Aphasia and CPT in the Indian context: Contributions of this study**

This is the first study to explore the application of CPT in the rehabilitation of people with aphasia within India—a country with high rates of stroke (Gourie-Devi, 2014). In India, training the training of family members is usually done to allow partners to address therapy tasks and stimulate language at home, in what Kong, Chan and Jagoe (2021) call ‘task-shifting’. CPT approaches, however, focus on making changes to the communicative environment of the pWA by training other people as CPs (Palmer & Pauranik, 2021; Saldert et al., 2018). The common aims of ‘true’ CPT approaches include establishing knowledge to prompt change in behaviour, address feelings and attitudes about communication and aphasia and to improve communication and participation for pWA (Cruice et al., 2018; Saldert et al., 2018; Simmons-Mackie et al., 2016). CPT-In provides the opportunity to train CPs in facilitating communication for the purpose of improving communication. In this regards, my study adds to the very small body of literature addressing CPT in majority world contexts (e.g., Legg et al., 2005) and addressing the limited evidence from non-English speaking countries (Terradillos & López-Higes, 2018). While evidence exists for CPT in China (e.g. Kong et al., 2021), there has been limited evidence found in an ongoing systematic review of CPT research published in languages other than English, pointing to the dearth of research in majority world contexts (Jagoe, personal communication).

The implications of the study for CPT extend beyond the majority work. The application of a generic group intervention for families was a crucial consideration and fills another gap - the majority of evidence for the use of generic group CPT relates to unfamiliar communication partners such as students, volunteers and healthcare providers (Simmons-Mackie et al., 2016). The application of CPT to three dyads involving a person with acute aphasia also contributes to the literature on the application of CPT during the acute phase, where limited evidence currently exists (Simmons-Mackie et al., 2016). Communication participation outcomes have been underexplored in the Indian context (Kiran & Krishnan, 2013) yet are of critical importance to foster overall health and wellbeing (Cruice, 2008; Hilari et al., 2012, 2021). Another unique contribution is the consideration of the impact of CPT on QOL of pWA, another gap identified by Simmons-Mackie et al (2016) systematic review.

While specific implications for CPT in India can be drawn from the study, the implication also have broader implications. In the discussion that follows, I will address the implications with regards to dyadic communication; implementation of CPT; and the measurement of outcomes.

### **12.2 Impact of aphasia and CPT on dyadic interaction: Contributions of the study**

The impact of aphasia on the people with aphasia and their caregivers in the Indian context was observed to be similar to that described in the literature, despite the different context. Aphasia had a significant impact on the communication of both people with aphasia and their primary communication partners, demonstrated by the findings of Chapter 9, which suggested the use of test-questions, test-tasks, and training behaviours by the CPs, assuming inferences, frequent topic changes, low levels of participation by pWA and the tendency for CPs to take control of the interaction. These findings are not unexpected, as aphasia has been shown to affect the communication of those interacting with pWA, specifically, the spouses and primary caregivers (Croteau et al., 2020; Sorin-Peters, 2003).

Literature from the Indian context shows that significant others of pWA demonstrate negative attitudes in their communication rather than supportive communication strategies (Singh & Pauranik, 2017). Literature from other countries has shown that spouses of people with aphasia also experience changed emotions and reactions during conversation in addition to the changes in their interactions with their aphasic partner (Croteau et al., 2020; Michallet et al., 2003). In this study, adjustments in the communicative behaviour of the untrained communication partners were observed to be more obstructive (nonaccommodation including underaccommodation and overaccommodation) rather than facilitative (accommodation) in nature. People with aphasia were found to make attempts to participate in conversation and contribute to the interaction 50% of the time, on average, during the recorded interactions with their communication partners. The communication partners were observed to support the PWA's participation between 25% to 50% of the time during these baseline conversations. The observed adjustments or the lack thereof may have been associated with various assumptions surrounding the nature of the disorder, the expected prognosis, attitudes towards communication. The participants were observed to sometimes act according to stereotyped assumptions about the interlocutor's role, status, superiority, or position in the family. Such nuanced cultural influences on dyadic communication such as family roles, gender roles, and hierarchical structures were identifiable owing to the researcher's 'insider' perspective and warrant careful consideration when adapting and exploring interventions within these contexts.

The findings showed that the impact of CPT on the proximal outcome (the changes in the use of supportive strategies of the CP, measured by the (M)SCA and analysis using CAT) and distal outcome (the changes in participation of the PWA, measured by the (M)PCA and analysis using CAT) varied across dyads. While some improvement in the (M)SCA was seen in four of the six dyads (dyads 1,2,5 and 14), significant improvement was only observed for dyads 1, 2 and 14. These dyads demonstrated reduced nonaccommodation in their communication by way of reduced maintenance of and divergence to solely verbal forms of communication, reduced nonaccommodative discourse management behaviour such as reduced interruptions, use of test questions and increased accommodation—use of interpretability and discourse management strategies such as the of communication supports, and providing more time. The change in behaviour of the CPs created opportunities for their partners with aphasia to respond in turn, correct incorrect inferences made by the CP and contribute further to the ongoing topic of discussion. The improved participation of the pWA is line with the literature which suggests that improvement in the (M)SCA has a direct impact on the (M)PCA (Eriksson, Hartelius, et al., 2016; Kagan, 1999). Indeed, the strong positive correlation in the (M)SCA and (M)PCA (Chapter 10), further supported this hypothesis with some exceptions observed. The improvement in the (M)PCA of the four dyads who demonstrated improvement in the (M)SCA was not consistent, with only three pWA (dyads 1, 2 and 14) demonstrating some improvement in their participation only one of whom demonstrated (dyad 2) significant improvement. CPT-In however, had a significant positive impact on the overall success conversations (MSC and MPC) for all the three dyads (1, 2 and 14) involving a person with chronic Broca's aphasia for whom follow up conversation data was available.

Changes seen in the accommodation suggest an increased focus on acknowledging competence. The improvements such as the increased focus on acknowledging the competence of the PWA and on the transaction of information by way of increased use of interpretability and discourse management strategies (Chapter 10) suggest that CPT-In was successful in changing some of the long-term nonaccommodative behaviours present in the communication turns of the communication partners, observed during the baseline conversations. For example, following CPT-In, communication partners who had difficulty writing and using keywords successfully used line drawings and symbols to support PWAs expression and enhance the meaningfulness of the discourse. While regaining the ability to communicate verbally may have remained a goal for some participants, an improvement in facilitatory communicative behaviour was evidenced in the follow up conversations. In some interactions across dyads 1, 2, 5 and 14, a shift was also observed towards sharing responsibility for instances of communication breakdown. The shared responsibility reflects the dyadic impact of aphasia on interaction, and the possible impact of CPT-In on supporting collaborative co-construction of the interaction. Evidence from dyad 2 (e.g., extract 10.20) demonstrates how when the CP and the pWA shared the responsibility for both the communication breakdown, the use of assertiveness by the pWA (e.g., use of gesture to indicate he wants the CP to use written words) was beneficial to the progression of the interaction. These findings may have implications for the future of CPT-In in terms of shifting the focus towards enhancing communication by guiding the use of supportive communication strategies for both pWA and their CPs, rather than unilaterally focussing on training of one part of the dyad.

A striking finding across dyads was that the communication partners often engaged in testing and training behaviour during conversation in a way that was both patronising and disruptive to natural conversation. The findings from chapter 10 demonstrate the continued tendency to 'train' pWA in the use of 'taught CP-strategies' (dyad 3, 4) and to apply these as 'rules' (dyads 1, 2, 5 and 14) rather than to support natural interaction. CP-strategies were also used to enhance engagement of the pWA in training, test, and practice tasks (E.g., dyads, 1, 2, 3, 4 and 14). CPs therefore often assumed roles as 'communication trainers', 'instructors' and 'assessors' rather than 'partners' (e.g., extract 32, dyad 3). This tendency may be a drawback influenced by the notion of 'being trained'. The possible exposure to 'home training programs' (Karanth 1989) for family members to carry forward therapy and training (Alim et al., 2016; Kaur et al., 2020; Pauranik et al., 2019) may additionally support this notion. While such nonaccommodation was often met with avoidance behaviours (chapters 9 and 10), overtime the pWA demonstrated compliance with these nonaccommodative strategies (dyads 2, 3, 4). Application of CAT (section 9.4.2) suggests that this increased compliance by pWA might be a manifestation of the negative psychosocial impact of such nonaccommodative behaviour on interaction. The increased compliance in the turns of the pWA to the CPs 'training behaviour' also results in asymmetry in the amount of adjustment made in communication which is counterintuitive to the purpose of training CPs to support communication for pWA, and takes away from the collaborative and constructive conversation which forms the basis for CPT. Furthermore, the possible reinforcement of nonaccommodative training behaviour in interactions involving dyads where there is already a distinction in the roles and positionality owing to the intersection of— gender and disability (e.g., dyad 3— Pavmani advises Chaitali that she "must not get angry" and "must do as told" when he makes her



practice speaking at home- see extract 10.29), age and disability, family hierarchy and disability, financial depletion and disability; its impact on interaction, and subsequently on well-being is concern for a considerable level of risk. The potential impact of the different connotations and interpretations of the 'training' in CPT, particularly in consideration of the clinical, practical, and socio-cultural considerations discussed, therefore has serious implications for reconsidering the way the terms 'Communication Partner Training' are framed. It could be suggested is that the CPs own motivators and goals for participation in the CP-training as well as their expectations from it may have influenced the purpose and nature of the adjustment strategies used in their turns during the recorded conversations. It is important however, to understand this impairment focussed attitude, which pervades aphasia rehabilitation theory and practice in the Indian context and influences how people with aphasia and their families approach conversation. The associated stigma (Ghosh, 2015), the role and lifestyle changes, the perceived impact and burden felt (see chapter 8) might function as motivators to 'cover up' and overcome the disability by 'reducing the impairment'. For some people with aphasia as seen in other contexts, the hope to regain normality may also be associated with acceptance of the changes following the stroke including changes to communication, personality, roles and pre-morbid identity (e.g., Wallace et al., 2017). Alongside the training behaviours, participants demonstrated a preference for verbal communication. Caregiver attitudes to communication were observed to manifest as nonaccommodative behaviours during interaction with pWA as observed in the findings from both chapters 9 and 10. Understanding the cultural processes that underlie the nature of communication observed is therefore key when introducing interventions based on the social model of disability.

Culture as an influencing factor has had limited consideration. Simmons-Mackie (2018) suggests that the use of communication supports such as drawing, communication boards and pantomime may be viewed as disruptive, strange or inappropriate to untrained communication partners. In this study, socio-cultural factors may have influenced the acceptance of supportive strategies. In dyad 1 for example, a reduction in the use of taught strategies was observed in the turns of the CP (Payal) with reduced engagement, participation and transaction observed in the turns of the PWA (Chet) in the final follow up. This change was associated with the negative reactions such as laughter and taunting behaviour from neighbouring shopkeepers Chet encountered when he attempted to use non-verbal strategies to get his message across (see extract 10.8, lines 1-16). Singh and Pauranik (2017) reported that significant others in the Indian context preferred to interact using the verbal and written styles rather than using non-depictive gestures, drawing and pictographic styles. These challenges may not be specific to the Indian context but may be strengthened in dyads with a strong preference for verbal language.

The application of CAT framework to turn-by-turn analysis of the conversations enabled an understanding of the behaviours and adjustments occurring dynamically during real-life and naturalistic interaction; the dynamic processes and purposes underlying these adjustments in communicative behaviour; as well as the ways in which behaviour of the speaker in one turn influenced the communicative behaviour of the interlocutor in the following turn. The predictive and explanatory nature of the CAT framework allowed for exploration of the reasons for reduced participation of pWA during some conversations — a consequence of nonaccommodative behaviour by the communication partner.

### **12.3 Impact of CPT on wellbeing and quality of life: Contributions of the study**

As reduced communication access is expected to be detrimental to QOL (Simmons-Mackie & Damico, 2007), improvements in the communication observed within dyads following CPT-In was expected to result in improved quality of life among the pWA. In addition, elements of the CPT-In that focused on enhancing understanding of aphasia, health and disability, the value of the family members as experts and assets for the PWA, as well as the social elements such as the group intervention, the opportunity to discuss and share stories was expected to contribute to improved sense of coherence among the communication partners. This study therefore explored the changes in these scores for each dyad prior to and following CPT using weighted statistics in chapter 11. However, those participants that demonstrated a significant improvement in their (M)SCA and their (M)PCA score did not have significant improvement on their communication related quality of life. CPT-In had a significant impact on the QOL of only 3 participants with aphasia (dyads 3, 4 and 5) who were all in the acute stage. The influence of spontaneous recovery as indicated with improvements in all domains of the SAQOL-39 measure cannot therefore be ruled out. It is interesting to note that these 3 dyads did not demonstrate a statistically significant improvement in their conversation skills described in chapter 10. It must also be noted that there was no clear indication of the association between communication related quality of life and the measures of support and participation in conversation [(M)SCA and (M)PCA] across the 14 dyads even prior to CPT (see chapter 11).

Promoting health by reorienting the person to focus on and recognise assets available to them that would enable them to cope or manage with the crisis at hand, rather than focus on the disability itself, may have a positive impact on a person's health and well-being. Shiggins and colleagues (2020) suggest the potential of CPT for enhancing sense of coherence (SOC) among the pWA. Following CPT-In, while there was no significant impact of CPT on the SOC of the primary communication partners, some participants demonstrated an improvement in their scores on the SOC following CPT-In. It could be suggested that following communication partner training, some communication partners had a deepened sense of understanding (comprehensibility) of the aphasia and the PWA's abilities, a sense of manageability associated with strategies to support communication with the PWA and develop meaning (meaningfulness) by way of being the expert and key resource in supporting the participation of the person with aphasia. CPT-In included modules on aphasia and health and disability as well as communication. Theoretically, improvements in SOC could be associated with improved understanding of aphasia and knowledge of how to manage the challenges with communication. However, impact of CPT on understanding and knowledge of aphasia and communication strategies was not evaluated and requires further exploration. Through the training module used in CPT-In, a conscious attempt was made to acknowledge and build on the expertise of the primary caregivers of the people with aphasia. This was underpinned by the idea that CPT-In relies on the CP and family members as assets in the process of social reintegration of the PWA. However, the lack of association observed between aphasia severity and the SOC of the family communication partners and similarly between the SOC and the conversation scores measured using the (M)SCA and the (M)PCA suggest that sense of coherence is impacted by a vast range of factors and an improvement in the communication alone does not necessarily have a positive impact on the sense of coherence.

The study included participants of varying severities which added to the complexity of making overarching interpretations. The application of a pragmatic approach using a multiple case study approach allowed for the diversity in the sample (Prasad, 2020), a critical consideration in a population as heterogeneous as aphasia, and allowed identification of patterns within the context of each dyad. A range of factors may contribute to the diversity in the findings between dyads (Eriksson, Hartelius, et al., 2016). The literature suggests that participant characteristics and attitudes towards communication (Turner & Whitworth, 2006), variations in learning styles of the CPs (Sorin-Peters & Patterson, 2014) and other factors may influence the impact CPT has on communication within the dyad. In the Indian context, the cultural expectations of communication between the genders may further complicate the picture when there is diversity in the gender of the PWA (an issue which is not confined to the Indian context but may be particularly influential in patriarchal societies). The findings therefore are not emblematic in relation to the Indian context as a whole, however, can be interpreted and applied with an understanding and consideration of the context provided for each dyad.

#### **12.4 Implementation of CPT: Practical considerations and contextual challenges**

The process of implementing CPT and the findings from this study suggest that it is not only methodological and logistical challenges that exist. There are also organisational, cultural, and environmental and largely systemic challenges that need to be addressed— attitudes towards disability, the idea of involving the family members as opposed to the PWA as recipients of intervention and the focus on supporting communication and not stimulating communication. Introducing the concept of total communication and shifting from the focus on verbal mode of communication (impairment focus) was challenging for some participants. It could be suggested that some participants required more time and support to “reframe” (Shiggins et al., 2020, p. 89). Application of the taught strategies for supporting communication was observed to be easier for dyads 1, 2, 5 and 14. For these dyads, realisation of the potential of use of supportive strategies in conversation in enabling them to discuss and engage in decision making beyond everyday needs appeared to be exciting, and freeing.

The lack of access to and resultant lack of adherence and frequent drop out from therapy has been a long-standing challenge that has been reported in the Indian context (Karanth, 1989, 2012; Kaur et al., 2020). Intervention for these pWA and their families often involves a brief home training program for the family members prior to discharge from hospital. The focus on task shifting activities that is often the case in family training interventions (e.g., Kaur et al., 2020), however, may impact the dynamic of the relationship, the power differences, the assumption of roles, and deviation from the intimate, natural spousal relationship. This concern stems from the evidence (chapters 8, 9 and 10) of the primary communication partners, assuming the role of a tester and trainer to use their interactions to engage in teaching, training, and testing-based activities with the intention of stimulating language for communication. As discussed in section 12.2, these factors may risk misinterpretation of the ‘training’ in CPT and subsequently influence its impact and further implementation and requires consideration in this context. However, having a shared term is useful- therefore the ‘term’ warrants wider debate with implications beyond this study. In addition to introducing the idea of communication, and the use of supportive

strategies, there is therefore a need to address the attitudes towards communication and disability, beyond those of just the primary caregivers. There is a need to support the transfer of skills to other communication partners, particularly in consideration of the collectivist nature of Indian society as well as extend the training to people with aphasia (see chapter 14). Encouraging the caregiver who attends the training to demonstrate supportive communication skills to their other family members, providing patients with videos to take home, guides for family members, follow ups to monitor the practice and the use of supportive strategies in communication are some ways in which transfer, maintenance, and generalisation in the use of CP-strategies can be ensured.

Despite the decision to carry out the CPT-In training across a single day to minimise travel demands, availability of trainees for the entire length of the one-day session remained a challenge. While rehabilitation and support for people with disabilities has been considered a responsibility of family members in the Indian context (Dalal, 2002), availability of family members during the rehabilitation process either as attendants or as partners in the therapy sessions was a challenge, and has been historically reported in the Indian context (Karanth, 1989, 2012). Availability for caregiving duty may also sometimes come at a cost for family members who are daily-wage workers and those who have to give up paid employment (Alim et al., 2016). This has implications for the success of family training interventions and suggests the need to find ways to increase the accessibility of the CPT-In training programs. Despite these challenges however, training of family members and their involvement in the rehabilitation of people with stroke and brain injury remains highly recommended and important in the Indian context (Alim et al., 2016; Dalal, 2002; Pandian & Sudhan, 2013; Reddy & Vranda, 2012).

Group training programs offer opportunities for inter-family support, create new avenues for socialising, requires lesser resources in terms of time and finances. Small-group sessions also allow for discussion and individualised input and creates opportunities for family-members to learn and gain insight from each other's experiences. Availability of the family members and site of intervention made it a challenge to ensure all the CPs received group CPT. Challenges with recruitment also meant participation in the study began at various points in time for the different participants. As a result, both individual and group CPT-In training sessions were carried out across four sessions. The scripted training however, allowed for adherence to the content of the generic, programmatic CPT-In training developed for the Indian context. This also has implications for the utility and scope of application of the CPT-In intervention.

### **12.5 Measuring the impact of CPT: Practical considerations and contextual challenges**

Researchers have reported difficulty capturing the full extent of outcomes of CPT interventions (e.g., Eriksson, Hartelius, et al., 2016) as well as in measuring communication in general (Doedens & Meteyard, 2020; Wallace et al., 2019). Participation and well-being outcomes have been underexplored in the Indian context (Kiran & Krishnan, 2013). To evaluate outcomes related to communication participation for both the CPs and the pWA, the measures chosen were such that they identified the barriers present in the communication environment (Azios & Damico, 2020) and the frequency of communicative acts (e.g., MSC and MPC; Kagan, 1999), as well as the participants perceptions of their own well-being through self-report measures (Antonovsky, 1993; Azios & Damico, 2020; Hilari

et al., 2003). Inclusion of the SAQOL-39 as a measure for capturing the impact of CPT-In on the quality of life of the pWA is also supported by its inclusion in 'a core outcome set' based on the ROMA consensus (Wallace et al., 2019, p. 183). Quantitative analysis on established outcome measures allows statistical analysis of significance of the effects of interventions (Saldert et al., 2018), however, when evaluating and rating overall conversation, it is likely that small changes in communicative behaviours might be missed (Eriksson, Hartelius, et al., 2016). In addition, measuring communication within a dyad following training only to the CPs is complex as it is highly dependent on the context (Saldert et al., 2018). Researchers suggest that qualitative methods of analysis can be used to complement the quantitative assessments to allow a more complete understanding of the changes occurring in conversation (Saldert et al., 2015; Sorin-Peters, 2004). They have the potential to provide in-depth information on highly specific and individualised outcomes (Saldert et al., 2018). In order to gain a more complete understanding of the impact of CPT approaches, Simmons-Mackie (2018) suggests studying the effectiveness of CPT on adjustments and accommodations by communication partners. CPT is designed to promote a positive communication experience and thereby enhance the psychosocial wellbeing and quality of life of the PWA (Kagan, 1998). Understanding the adjustments in communication behaviour provide insight into the process that underlie the communication experience. This study applied CAT as a qualitative framework – the first study to do so in the context of CPT for aphasia. In this study, the application of a qualitative framework such as CAT also allowed me to draw patterns within and across participating dyads and identify how the observed communicative behaviour of a speaker in each turn influenced that of the interlocutor in the following turn.

Adjustments such as how pWA and their CPs dynamically adapt their own communication behaviour including style (verbal, gestural, written, other non-verbal forms), tone and content of the conversation, turn-taking behaviour, language used, during interaction with each other and in consideration of the perceived attributes including communication ability of the other predict the nature of the communication experience. For example, CPs were observed to use an undesirably high number of closed test-questions, word-repetitions, test, and practice tasks that appeared to create opportunities for interaction (i.e., increased interaction while simultaneously compromising on acknowledging the competence of the PWA and transaction in the turns of the PWA) but often resulted in the pWA demonstrating obstructive behaviour such as avoidance communication (see 12.2). The turn-by-turn qualitative analysis enabled analysis and interpretation of these behaviours in relation to the ongoing activity or context which may have otherwise been interpreted based on the behaviour alone and provided evidence of the processes that prompted a nonaccommodative or obstructive response from the PWA. Capturing underlying processes such as CPs perceptions of PWA (e.g., reduced competence), purpose and focus of interaction (e.g., training) and, nature of adjustments that may not always be captured through objective and quantitative assessments are highly important to interpretation especially when exploring new territory such as a complex social intervention that focuses on enriching the communication environment within a highly complex and diverse context. The application of the CAT framework to the conversational data collected, thereby facilitated understanding of not only the impact of CPT on the behaviour of the communication partners but also the ways in which the changed communicative behaviour of the CPs influenced that of the pWA on a turn-by-turn basis

and the resultant impact on the overall communication experience. It could also be suggested however, that in consideration of the collectivist nature of Indian society and the observed influence of the behaviour of both trained and untrained CPs (e.g., dyad 1) on the behaviour and experience of the pWA; exploration of more in-group perspectives as observed in other collectivist cultures (e.g., Kong et al., 2021) and changes in interaction beyond a dyadic focus would enhance our understanding of the impact of CPT within such contexts.

The application of CAT also helped understand unusual patterns in the visual and statistical analysis of conversation data. For example, an improvement in the participation of the pWA in dyads 3 and 4 following CPT-In was observed based on visual analysis of the (M)PCA scores with no indication of improvement in the (M)PCA scores of the CPs in the respective dyads. Analysis of the conversations from these dyads using CAT, however, allowed exploration of the ways in which the PWA in each dyad demonstrated improved participation during communication interaction. The application of the CAT framework to the analysis of the conversational data from this study therefore demonstrates the value of assessing the impact of CPT from different perspectives and using a qualitative theoretical lens. The integrated analysis using CAT and the (M)SCA and (M)PCA measures enabled deeper understanding and provided explanations for questions which would have otherwise been unanswered using solely quantitative methods of analysis. The chosen methods of analysis were therefore better suited to answering the question of 'what is the impact of CPT' more comprehensively. These reflections are in line with those of Saldert and colleagues (2018) who suggest the appropriateness of measuring the impact of CPT from different perspectives as well as those of Clarke (2009) who highlights the importance of integrating qualitative and quantitative methods to allow a more comprehensive understanding of the experience with stroke.

The application of qualitative approaches to the analysis of outcomes may therefore reinforce the methodological validity (Saldert et al., 2018). In this study this was possible by integrating the findings from CAT with the results on the (M)SCA and the (M)PCA as well as through triangulation of data from the interviews for clarification, verification or explanation of negative data and unique patterns where relevant. The use of MSC, MPC and CAT in unison allowed me to capture those aspects reported as being prioritised by pWA and their significant others documented in a study by Wallace and colleagues (Wallace et al., 2017) that were relevant to the constructs addressed in CPT-In. These included— tools for CPs to support communication and comprehension for the pWA, reduce communication breakdown and to have deeper, in-depth conversations. While the time consuming nature of qualitative approaches make them less feasible for large data sets (Eriksson, Hartelius, et al., 2016), and mixed methods are considered logistically complex and costly (Clarke, 2009), they demonstrably add richness and value to case study designs as they allow for contextualisation of each participant.

## **12.6 Conclusion**

CPT has demonstrated feasibility for implementation in natural settings, both in published literature (See Simmons-Mackie et al., 2010, 2016) and in this study. It has also demonstrated its benefits for pWA of varying severities and both in the acute and chronic stages (Simmons-Mackie et al., 2016), supported by the findings of this study. Through this

study, the feasibility and application of CPT in the context of a complex resource-constrained majority world country has been demonstrated. While the findings suggest that more than one session with increased accessibility, increased focus on attitudes towards communication and disability and extending training to other CPs and the pWA themselves would be preferable to enhance the impact and ensure the longer-term benefits of the interventions, this study acts as a strong starting point for a new era of research and development in aphasia rehabilitation within the Indian context. The resources developed, the manualised training and the insights from CAT (described in the next chapter), can inform the development of similar training programs for various categories of 'communication partners' of people with aphasia. The findings from the study were complex and required exploration at dyadic level. The need to explore impact through qualitative tools that are sensitive to contextual factors and discourse factors was highlighted by the diversity in the findings from the study. Working under a pragmatic research paradigm, this thesis demonstrated a novel approach to addressing the challenges with evaluating the impact of CPT by employing integrated mixed methods using standardised tools and an applied theoretical lens, to evaluate the impact of aphasia and CPT on communication, participation, and well-being of people with aphasia and their communication partners.

## **13 Applying and extending Communication Accommodation Theory**

To my knowledge, this is the first study to apply CAT to primary conversational data involving people with aphasia and specifically to use it to understand changes brought about by Communication Partner Training (CPT) in dyadic interaction. This chapter discusses the novel insights generated through the application of CAT to interaction between people with aphasia (PWA) and their communication partners. It is structured in two main sections, 'Applying CAT' and 'Extending CAT', as the findings suggest that the application of CAT may inform both the development and monitoring the impact of CPT (section 13.1), but equally CAT itself may be extended through application to conversations involving PWA (section 13.2). Like any other theory, CAT has some limitations which are acknowledged and described in section (13.3). Section 13.4 summarises the conclusions from this chapter.

### **13.1 Applying CAT: Implications for CPT and clinical practice**

Simmons-Mackie suggests that "Communication Accommodation Theory provides a rationale for communication partner training in aphasia and enriches our understanding of communication in aphasia" (2018, p. 1215). This study has shown how CAT can indeed provide a lens to understand the underlying processes of interpersonal communication among people with aphasia and their communication partners. Specifically, CAT provides insight into how adjustment is crucial to enable interaction, the consequences of exposure of untrained CPs to aphasia, and the impact of negative communication experiences on future interactions. It also provides a lens to understand the impact of CPT and informs the considerations for improvement of the CPT-In explored.

Most CAT research looks at accommodation in relation to a specific aspect or context of communication, such as ageing and intergenerational communication, language and accent in culture and ethnicity contexts, healthcare interactions, family, educational, organisational, media or legal contexts with some overlap between contexts (Soliz & Bergquist, 2016). However, the literature has yet to explore adjustment in relation to the use of strategies in dyadic interaction to support communicative participation for people with communication disorders, or how patterns in adjustment may be influenced by training of the CP. This application of CAT to the context of pWA therefore offered an opportunity to strengthen and expand the theoretical scope of CAT. After all, a theory of communication is not a theory of communication unless it accounts for communication disability (Jagoe & Wharton, 2021). CAT provides a logical framework of relevance to the current study, through which to understand why family members engage in identified patterns of communicative interaction by suggesting a causal explanation. It has demonstrated the potential to help understand accommodation as an "interactional resource in conversation" (Gallois, Weatherall, et al., 2016, p. 108) for people with aphasia and their communication partners. The applicability aligns with the predictive and explanatory nature of CAT described in the literature. The dynamic nature of CAT enables expansion of the theory in the same data driven manner by which the existing nomenclature was constructed. The theoretical (based on aphasia literature) and data driven codes generated for analysis were found to fit within the CAT framework. The addition of two new speaker focussed constructs that take into consideration constraints to the ability to actively accommodate or adjust communication enable us to justly



categorise and explain the communicative behaviour of people with acquired communication disorders during interaction. The versatility, predictive, comprehensive, and explanatory nature of the theory enhances the potential for the dynamic use of CAT to inform tailored CPT programs and conversation focussed therapies and explain reasons for the adherence to or lack of adherence to such programs. CAT proponents have also suggested the framework's utility and potential in underpinning training programs that attend to both interpersonal and intergroup communication (see Gallois, Gasiorek, et al., 2016).

### **13.1.1 Exposure of untrained CPs to pWA: Consequences for the PWA and CP**

The application of CAT demonstrated in this study, sheds light on how exposure to a person with aphasia is not sufficient to ensure adjustment or participation. Incorporating skills training is likely to be essential. Kagan, Simmons-Mackie and Victor (2018), reported that untrained communication partners exposed to pWA demonstrated a *decline* in their social-communication skills during conversations with pWA. The authors consider a 'nocebo' effect as a possible cause for the adverse reaction demonstrated by the control group research participants to an inactive or absent treatment—exposure to pWA with no training (*ibid*). From a CAT perspective this phenomenon can be explained as a consequence of their experience during their 'exposure' to the pWA. CAT suggests that negative experiences can result in the interlocutors demonstrating avoidance in their communicative behaviour and reduced participation in future interactions (Soliz & Giles, 2014; Tomsha & Hernandez, 2010). Therefore mere exposure, without the skills to support a 'successful' interaction, may potentially be damaging to future interactions and the experience may also impact the sense of self (Hamilton, 2010; Harwood et al., 2006) of the PWA. In relation to this thesis, adjustments observed in turns of the CPs by way of 'elderspeak', 'testing and training', corrections (spoken and written), may have been uninformed attempts at supporting the pWA by showing 'affection', helping them 'recover the ability to speak'. These behaviours not only draw attention to the aphasia (Beeke et al., 2014), but may also prevent pWA from contributing further to a topic (Saldert et al., 2018). The consequences of these behaviours, such as reduced participation and contribution of the PWA, may influence the flow and overall experience of the ongoing conversation.

The pWA in this study were observed to, at times, demonstrate avoidant communication by way of ignoring or not responding to the overaccommodative or patronising behaviour demonstrated by a CP in the immediately preceding turn. This "passive or ignoring/nonrelevant response" (Gasiorek, 2016, p. 95) and reduced engagement by receivers has also been reported in the CAT literature relating to communication with older adults and adults with disabilities (Gallois, Weatherall, et al., 2016; Gasiorek, 2016). CAT suggests that such overaccommodative adjustments are associated with group stereotypes (Dragojevic et al., 2016; Soliz & Giles, 2014) such as assumptions that the person with aphasia is 'incompetent', or even childlike and may be perceived by the recipient as condescending and patronising (Gasiorek, 2016a; Simmons-Mackie, 2018). Irrespective of whether such nonaccommodation affecting the social aspects such as interpersonal relations (affective function), is intended or unintended, it often results in negative evaluations of the speaker and reduced quality of the interaction (Gasiorek, 2016). Among pWA, perceived fluency of speech has been found to be associated with broader perceptions, and particularly intelligence of the person (Khvalabov, 2019) risking poorer evaluations of people perceived

to be non-fluent. Soliz and Bergquist (2016) suggest that the effects of negative evaluation of a group on nonaccommodation and reluctant accommodation in communication are significant. CAT, applied to intergroup contexts, suggests that negative experiences in communication when in conversation with members belonging to a certain group, may impact how one engages in future conversations with members of the same group. The negative experiences therefore risk impacting on the PWA's participation in communication interaction with other non-aphasic members of the community and may even impact of communication with members of their own family. Such experiences can have serious consequences for the perceptions of self as suggested by the literature on aphasia (Byng & Duchan, 2005; Musser et al., 2015; Shadden, 2005; Strong & Shadden, 2020) as well as by CAT (Gasiorek, 2016; Harwood et al., 2006; Hummert, 2019; Palomares et al., 2016). Repeated experiences of patronising talk and interactions wherein opportunities to contribute to conversation are constrained, can cause the receivers (pWA) to internalise the beliefs that they are incompetent and dependent which may in turn manifest in behaviour (e.g., compliance to the nonaccommodative 'training' behaviour of the CPs) which is consistent with such beliefs (Gasiorek, 2016). This can have "negative communicative, psychological and potentially even physical outcomes" (p. 93) particularly for older adults (*ibid*). It is therefore suggested that there is a strong theoretical and empirical basis to support CPT as a means of assisting caregivers in understanding the communication needs and preserved competencies of people with aphasia.

### **13.1.2 Notions of superiority and inferiority: Consequences for interlocutors**

The application of CAT in this study also demonstrates the tendency of pWA to converge to superiority (social purpose) and the tendency of CPs to undermine the competence of pWA and their consequences. Simmons-Mackie (2018) suggests that the convergence towards the unaided verbal modality observed in the communication of pWA during interactions with their family members and untrained communication partners may be associated with the desire to seek affiliation as explained by CAT. In the baseline sessions in this study, the pWA made attempts to converge to their respective CPs, perhaps owing to the ability of the conversation partners to communicate in the largely preferred verbal mode of communication. This could also be explained by the observation that people tend to converge to the those who are viewed as belonging to superior group or a group of higher status (West and Turner, 2014). Instances of attempts at convergence in this manner, that are constrained or restricted owing to the aphasia (unavoidable nonaccommodation), often risk reduced interpretability (evident in chapters 9 and 10), or as described by Simmons-Mackie (2018), less meaningful transaction during conversation. CAT suggests that irrespective of the intentionality behind the nature of adjustment, nonaccommodation in the speaker's turns that affects comprehension (cognitive function), can result in communication breakdown or miscommunication (Gasiorek, 2016).

CAT suggests that the way interlocutors perceive their "respective groups' vitalities" (p.45), predicts their own attitudes during interaction (Dragojevic et al., 2016). This also suggests an explanation for the assumed superior role of the communication partners evidenced during their interaction with the pWA. A dangerous consequence of the lack of supportive strategies is the possibility of repeated occurrences of nonaccommodative discourse management, nonaccommodative interpersonal control, underaccommodation that may instil an illegitimate sense of inferiority or incompetency among the people with aphasia

that may eventually result in them cooperating and accommodating to these false notions and illegitimately set roles and standards (Gasiorek, 2016). A similar phenomenon has been observed in healthcare provider interaction with people with communication disorders (Burns et al., 2017). Patients often feel frustrated owing to the tendency of the healthcare providers to use only verbal communication despite awareness of the patient's communication disorder (maintenance and underaccommodation) (*ibid*). The tendency to oversimplify, dominate the interaction by only using close ended questions and not acknowledging the competence of the patient has also been observed and risks negative consequences for the patients following interaction (*ibid*). The findings from this study therefore add to the small emerging body of literature that has applied CAT framework (although the existing literature is limited to the principles of overaccommodation and underaccommodation) to the context of people with communication disorders. The application of CAT in this study, in this way provides insight into the influence of perceived roles, superiority, and dependency on communication and its consequences for the interlocutors.

### **13.1.3 Balancing comprehensibility and social aspects of CPT training**

The application of CAT to the conversational data suggests that it is important to balance the training on comprehensibility strategies with an equal emphasis on the social aspects such as feel and flow of the interaction. This aspect is not a feature which is typically discussed in the literature on CPT where the focus is on awareness of aphasia and on specific skills to support the exchange of messages between CPs and pWA. Following CPT, although improvements were seen in some dyads, there was still some amount of disruptiveness to the overall flow of natural conversation. CPs appeared to have difficulty integrating the use of cues in a natural conversational manner. A few follow up sessions might be required to ensure strategies are used in conversation in a manner that not only enhances comprehensibility (cognitive function) but also the feel and flow of the interaction, or from a CAT theoretical perspective both cognitively focussed and socially focussed (affective function) strategies to enhance the overall communicative experience. The observed shift in some dyads from focusing more on the use of social strategies prior to receiving CPT (e.g., restricting to the verbal communication, use of test-questions to create opportunities for interaction, the tendency to save face for the PWA by dominating the conversation and restricting the PWA's participation to yes/no questions) to an increased focus on the cognitive strategies (e.g., use of written supports, keywords, pointing, gestures, reduced pace) following CPT may have been associated with the focus on facilitating transaction of information during interaction by use of supportive strategies ('Getting the message in' & 'Getting the message out' in module 3 of the training). Solely focussing on the comprehensibility in conversational interactions might be perceived as disruptive or may result in the interlocutor (PWA) losing interest, enhancing the feeling of being a burden on the CP. For example, an issue that appears to recur is the placement of the sheet when writing. CPs were observed to take the sheet towards them, write the keywords and then move it towards the PWA to read and respond to. Here the CPs focus on the use of interpretability strategies while compromising on the social aspect of the interaction. Although the placement of sheets and stationery used for writing keywords was addressed during the one-day training sessions, it does not appear to transfer well and might need to be emphasised more during the training or through ongoing monitoring for a fixed number of sessions. The use of strategies in a natural conversational manner is

crucial to supported conversation and may require monitoring to ensure it is carried home and generalised in an appropriate manner that is facilitative for the PWA. The application of CAT therefore provides insight into the impact of the CPT-In intervention both in terms of its benefits and limitations informing future considerations for ensuring the CPT-In training has an equal emphasis on the comprehensibility aspects (cognitive function) and social aspects (affective function) for interaction.

#### **13.1.4 Applying CAT: Concluding remarks and implications for clinical practice**

The application of CAT provided insight into the processes underlying the nature of communication between pWA and their CPs and the behavioural changes observed in communication following CPT-In. It provides insight into possible predictors of behaviour as well as explanations for the observed behaviour. For example, it has demonstrated that: use of test-questions by the CPs often results in pWA displaying avoidance communication behaviour; use of accommodative interpretability strategies in unison with discourse management strategies in the turns of the speaker prompts accommodation in terms of discourse management and interpretability by the interlocutor together resulting in improved participation and transaction. Unlike all other analytical lenses applied to study communication in aphasia, the CAT framework allows consideration of social (e.g., saving face) and cognitive (e.g., undermining competence, enhancing comprehensibility) processes in concomitance with contextualised communicative behaviour (Gasiorek, 2016). Unlike other theories of interaction, it also allows for consideration of both interpersonal and intergroup factors (Gallois, Gasiorek, et al., 2016). This gives researchers the opportunity to understand how (i.e., type of adjustment strategy), why (i.e., purpose of strategy), and when (i.e., what behaviour preceded its usage, who is the listener(s)) pWA and their CPs act, infer the others motives, and react in a certain way, within certain situations, and the consequences (i.e., communication experience, attributions of each other, impact on behaviour in future interaction, impact on perceived sense of self and wellbeing) they might have while simultaneously considering both interpersonal and intergroup factors. Therefore, the theory's crucial requirement to attribute observed communicative behaviours to personal, contextual, and cultural circumstances (Gasiorek, 2016b) enables it to provide a comprehensive picture (Gallois, Ogay and Giles, 2006) of interpersonal and intergroup aspects of communication across communication contexts and perhaps in the context of people with communication disorders.

The discussion in sections 13.1.1 – 13.1.5 has implications for the application of CAT to clinical practice. The ability to explain the processes underlying the way aphasia impacts communication for both pWA and their CPs, and the consequences of these behavioural changes, may serve to identify targets for tailored communication interventions (e.g., For the CP, reduce nonaccommodative behaviour such as elderspeak, testing) while simultaneously serving as a tool to compare behaviour change prior to and following clinical intervention. The format of the applied CAT framework used for analysis in this study, however, might be challenging to utilise in clinical or non-research contexts owing to the level of complexity, detail and time required for analysis. A simplified format of the framework (see Appendix 19) used in this study might arguably be better suited as a framework to structure consideration of conversation between pWA and their CPs. Applying the CAT framework to identify the 'How—Accommodation or Nonaccommodation'; Why— 'Cognitive or Social purpose'; 'When— At the outset or

responsive adjustment'; 'Consequences— Improvement or decline in interaction, transaction, experience' of the associated facilitative and obstructive behaviours observed and comparing their count prior to and following clinical intervention might offer a comprehensive and less-time consuming approach to operationalising CAT in clinical practice. Similar approaches have previously been recommended for clinical analysis of the impact of conversational intervention (e.g., Beeke et al., 2014). The application of CAT, however, provides additional predictive and explanatory information on the 'how', 'why' and 'when' of the dynamic adjustments in interactions between pWA and their CPs. In this model, examples of behaviours can be noted for discussion with the dyad, or can be used as a crude tally of change over time.

### **13.2 Extending CAT: Strengthening the theoretical scope and uncovering nuances**

Researcher's aligned to CAT highlight its versatility and its use across a range of disciplines and contexts of research (Soliz & Bergquist, 2016). The existing nomenclature for the categorical classification of behaviour and nature of adjustment emerged from these studies has been used extensively across contexts as varied as research on communication in relation to ethnicity, gender, language, socio-economic status, social media, healthcare settings, professional settings, family settings and others. However, in most of these studies, the evaluation has focused on the communication behaviour of people without acquired communication disorders. When applying CAT to people with communication disorders, it is essential to account for the nonaccommodation that prevents effective, successful, and meaningful communication interactions. The application of CAT to the data from this study therefore uncovered nuances (e.g., constraints and restrictions owing to disability) within both the accommodative and nonaccommodative processes. In this study, the process of applying CAT to conversations involving people with an acquired communication disorder revealed the need to consider constraints on the 'ability' of the interacting individuals to actively accommodate or adjust communication more closely. For example, in section 9.3.2 of chapter 9, it was observed that the ability to adjust communication for pWA was constrained at the behavioural level, that is, when making the actual adjustment and is therefore impacted by the supports available. This is distinct in nature from the communicative behaviour of people with a mental or cognitive impairment reported in the literature whose ability to adjust is constrained at a social and cognitive level (e.g., an assumed difficulty in perceiving social cues, or in perspective taking) (Hamilton, 2010) rather than at a neuro-behavioural level (e.g., accessing spoken language). The principles of CAT have been revised and refined overtime with increasing application of the theory across various contexts, and are associated with the methodologies used (Gallois, Gasiorek, et al., 2016). The seven principles proposed by Dragojevic, Gasiorek and Giles (2016) that account for "interpersonal and intergroup motivations, perceptions and outcomes" (*ibid*, p.51) along with the eighth principle added by Gallois, Weatherall and Giles (2016) that attends to the interactional element of conversation (Dragojevic et al., 2016) were successfully applied to communication involving people with communication disorders such as aphasia in this study. However, while principle 3 describes accommodation as a product of both motivation and the ability to adjust (Dragojevic et al., 2016), the propositions and principles of CAT largely prioritise the motivational and perceptual aspects of the theory (Gallois, Gasiorek, et al., 2016). This is evident in the behaviour and strategies for adjustment described in the literature thus far (e.g., Dragojevic et al., 2016; Giles & Ogay, 2007; Jones et al., 1999). The application of

CAT to this study allowed expansion of its theoretical scope and strengthening of the theory by highlighting the involvement of interlocutors' 'ability to adjust' during ongoing conversation. The use of multiple baselines and integrated mixed methods allowed contextualization of the conversations and exploration at a dyadic level which has been recommended for the future development and application of CAT theory by its proponents (e.g., Gallois, Gasiorek, et al., 2016).

Consideration of ability is essential to justly categorise and explain the communicative behaviour of people with acquired communication disorders during interaction. Two categories have thus been created during this process– *Constrained Accommodation and Unavoidable Nonaccommodation*. The above categories may be considered as speaker focussed constructs for speakers whose ability to adjust is affected by a communication disorder. *Constrained Accommodation* may be perceived as 'underaccommodation' by the listener. *Unavoidable Nonaccommodation* may be perceived as 'nonaccommodation' or 'avoidant communication' by the listener. In this way, not only did the application of CAT extend to the analysis of behaviours as being accommodative and nonaccommodative but also differentiated between types of accommodation and nonaccommodation in consideration of the motivation and ability (Dragojevic et al., 2016) of the interlocutor. Soliz and Bergquist (2016) remark that little effort into understanding the nonaccommodative process has been demonstrated in the literature. This study has addressed some of that gap by considering processes and factors underlying nonaccommodation (such as 'ability to adjust') while also contributing to the evidence on the differentiating the consequences of nonaccommodation (e.g., underaccommodation resulting in communication breakdown; overaccommodation resulting in avoidance) as observed during communication.

### **13.2.1 Considerations for inter-ability communication & accommodation**

Applying CAT to the context of people with aphasia demonstrates the importance of context in inter-ability communication and accommodation. The literature describing the application of CAT to the context of people with disabilities, or 'inter-ability' (the term here is intended to further specify the CAT notion of inter-group communication) is not so much focussed on less visible disabilities such as communication disabilities. For people with stroke and aphasia, 'perceptions and motivations' relating to the visible aspects of the disability as well as contextual elements that come in to play during interaction increase the complexity of evaluating adjustment in conversation. The application of CAT to the inter-ability context of people with aphasia and their communication partners also has implications for the broader context of rehabilitation and reintegration of people with aphasia. In this study, conversation is explored within dyads comprising a person with aphasia and a communication partner. In most of these interactions, the conversations appear to be directed at the pWA or dominated by the communication partners. This asymmetry may be partially explained by the research context that is interactions between typical communicators (CPs) and people with an acquired communication disorder (pWA). Although as is typical of any interaction, various interpersonal factors are at play here, it could also be considered as an inter-group context where the CPs exert nonaccommodative interpersonal control in their turns during conversation. Various factors can act as triggers to activate intergroup identities (Palomares et al., 2016). For example, the use of an assistance device by a person with a disability (PWD) can set off an

inter-ability dynamic between the PWD and the interactant (Duggan et al., 2012). In interactions with people with aphasia, this could be the observed differences in their ability to communicate, the use of supportive communication strategies in ways that are not typically used during communication by untrained, typical communicators. For example, the CPs perceptions of incompetence, reduced ability in their family member with aphasia, can prompt them to overaccommodate to their needs in ways such as 'elderspeak' that are considered patronising for the recipients. However, this is a pattern that is commonly reported in studies exploring interaction with people with disabilities and older people suggesting it could be a response to an underlying inter-ability group dynamic (Palomares et al., 2016). Understanding of these triggers and how they influence communication in aphasia will be useful to guide clinicians and researchers in planning therapy and designing programs to train people with aphasia, primary caregivers, and other potential communication partners of people with aphasia within the community to improve communication interactions involving people with aphasia.

### **13.2.2 Limitations of CAT**

The attempt in CAT to capture a comprehensive picture of interaction including the antecedents (motivations, perceptions), the interactional dynamics and the consequences (perceptions, behaviour) offers a very complex theory which is a challenge for researchers who use it (Gallois, Weatherall, et al., 2016). The literature also lacks consistency in the methods used to apply CAT (Giles et al., 2010; Soliz & Bergquist, 2016). While the application of CAT in qualitative quantitative and mixed method research mean extensive variations in methods, it highlights the value and strength of the theory (Gallois, Gasiorek, et al., 2016). Recommendations and directions highlighted in the existing CAT literature however guided the application of CAT to the novel context of people with aphasia in a complex and culturally diverse context. The methodology used in this study differs in comparison to those used and included in meta-analytical studies of the existing literature (Soliz & Bergquist, 2016) and reviews of qualitative studies (Gallois, Weatherall, et al., 2016). However, it paves the way for a new group of studies using integrated mixed method studies, an increasingly recommended methodology for the future of CAT exploration and application (Gallois, Gasiorek, et al., 2016; Gallois, Weatherall, et al., 2016).

The application of CAT to the evaluation of communication is very timing consuming—particularly, the turn-by-turn analysis that was required to understand and consider the antecedents and the consequences of behaviour during interaction. While software like 'Discursis' is being increasingly used (e.g., Baker et al., 2015) and developed in consideration of CAT (Gallois, Gasiorek, et al., 2016), the unique dialects involved in this study, and the analysis of non-verbal communication inherent in aphasia, required manual transcription, analysis and interpretation of all the conversational data collected. However, the benefits outweigh the limitations. An understanding of the theory and its consideration during analysis and planning rehabilitation will help guide clinicians (see section 13.1) to identify the ways in which specific behaviours function as obstructive behaviours and those which function as facilitative behaviours unique to the dyads and contexts within which they are explored.

The lack of consideration to people with communication disability in the propositions and application of CAT has been a drawback of the theory, addressed to some extent in this

study. The dynamic nature of the theory however, allowed expansion of the theory, giving this thesis the opportunity to strengthen the existing theory and expand its scope.

### **13.3 Conclusion**

The application of CAT to the context of conversations between pWA and their CPs in this study has served to advance both theory and practice as discussed in this chapter. Evaluation of adjustment in conversation through the CAT lens allowed understanding of the behavioural antecedents, actual behaviour, and the behavioural consequences as they occur during conversation. It provides a way to document the ways in which pWA and their CPs adjust their communication, the facilitative and obstructive adjustments, motivations, perceptions, and behaviours that influence adjustment and the consequences of these adjustments during communication. The findings provide insight into the processes underlying nonaccommodative adjustment in communication and clearly demonstrate how nonaccommodative adjustment in the turn of one interlocutor can trigger nonaccommodative adjustments or avoidance in the turns of the other interlocutor. Consideration of both intergroup and interpersonal factors as well as sociolinguistic and psychosocial processes in the principles and propositions underlying CAT allow a more comprehensive understanding of the communication process. The novel application also allowed us to use innovative ways of evaluating communication in aphasia and the impact of the CPT-In intervention on communication. The application of CAT to the context of pWA also helped uncover nuances in accommodation and nonaccommodation and in doing so strengthen and expand the scope of application of CAT to the context of people with acquired communication disorders such as aphasia. Despite the limitations of CAT, the benefits of its application were crucial to the strength and rigour of the mixed method study. The limitations of the study and future directions are discussed in the next chapter which concludes this thesis.



## **14 Methodological reflections, limitations, and future directions**

This study used novel methods to comprehensively answer the research questions that governed this study. The process, however, was not without limitations but has created avenues to further this research in the context of India and the broader context of majority world countries. This concluding chapter discusses the reflections on the methodological decisions (section 14.1), describes the limitations of the study (see section 14.2), lessons learned with regards to cultural adaptation (see section 14.3), and future prospects for research (see section 14.4).

### **14.1 Methodological reflections**

The cultural context explored, complex nature of CPT as an intervention, the communication-phenomenon explored, and the available outcome measures all added to the complexity of the study. The ways in which challenges relating to the research design and data analysis and the measurement of outcomes were addressed are discussed.

#### **14.1.1 Considerations during study design and data analysis**

The application of mixed-method philosophy from a pragmatic perspective, allowed designing of a mixed-method multiple-case study that was not only suited to addressing the research questions that governed this study but also allowed management of the predictable and unpredictable challenges that were encountered during the process of data collection and analysis. The design and analytical procedures used for each case were based on single subject designs which are highly recommended for research in aphasia in consideration of challenges often encountered (Krasny-Pacini & Evans, 2018) as discussed in section 6.3.1. Despite designing the study and the intervention to minimise the inconvenience caused to the participants, contextual factors such as transport and accessibility, availability of caregivers and resultant drop out, linguistic diversity, which have been previously reported in the Indian aphasia literature (Karanth, 1989, 2012; Kaur et al., 2020), heightened the challenges with conducting aphasia research. For example, challenges with recruitment unique to the context, prompted extension of the inclusion criteria resulting in a heterogenous (age, gender, language, time post onset, type, and severity of aphasia) sample. This heterogeneity, however, was balanced by the methodological considerations of case study designs and the mixed method approach allowed contextualisation of each of the dyads specifically the 7 dyads who received CPT-In. The application of mixed method philosophy to multiple case study design therefore demonstrates promise for its use in complex and challenging contexts such as that explored in this study.

The chosen methodology and study design was also beneficial in that it allowed for the inconsistency in the number of data points across the participants, the recruitment of participants at different time points, variability in delivery of the intervention to individual and small groups (discussed in section 12.4) and allowed creative problem solving. The application of weightings based on the number of data points using the WEST method of analysis (Howard et al., 2015), allowed for the inclusion of subjects for whom smaller and variable number of data points are available. The use of mixed methods with the multiple case study design allowed for contextualisation and exploration of each dyad separately which further supported the decision to explore both individual and small group models of

delivery of CPT-In. In addition, differences in time of recruitment and differences in the time post onset of the stroke and aphasia also meant, the CPT-In intervention was introduced at different points for each dyad. The changes in the communicative behaviour in the follow up conversations can therefore be attributed to the intervention (Eriksson, Hartelius, et al., 2016) unless otherwise indicated (e.g., dyads 3 and 4). This was therefore a strength of the design and adds to the benefits of using mixed methods with case study procedures in complex and challenging contexts as demonstrated through this study.

The use of a multiple case study approach, drawing on principles of single-subject designs, also allowed for accounting at what point changes in performance occurred, a known strength of such designs (Johnston et al., 2019). The use of mixed methods allowed contextualisation of some of these changes. For example, in dyad one (discussed in chapter 10, section 10.1), a reduction in performance in conversation as measured by the (M)SCA and the (M)PCA was observed during the final follow up evaluation. The use of visual analysis alongside statistical analysis aided interpretation of the findings by demonstrating a decline in the pattern of performance between the second and the third follow up for dyad 1. The value of using visual analysis alongside statistical analysis has been recommended in the literature on single subject designs (McDonald, 2015; Thompson, 2015). The qualitative analysis of the video-recorded conversation as well as triangulation of data from the semi-structured interview provided context to help understand the reasons for the observed decline in performance. In this instance, the mixed-method study enabled understanding of the how, when, and why relating to the change in performance of dyad one. The findings also gave us the opportunity to understand the influence of external environmental factors such as the attitudes of untrained and non-family communication partners and third-party listeners which has implications for future work (e.g., community awareness, education and training, assertive training for pWA discussed further in section 14.4) that needs to be addressed and explored within the Indian context.

With the overarching objective to expand the evidence base on CPT to the context of majority world countries, it was important to consider the value of the analysis carried out in terms of its utility for the much needed comparison across CPT studies (Saldert et al., 2018). This study used weighted statistics for primary analysis of the data and  $d_{BS}$  for secondary analysis of the data using the raw scores. As described in chapter 6, however, the methods for calculating effect sizes that have been used and reported in the aphasia literature, are not free of criticism in relation to their accuracy and the influence of factors such as autocorrelation (Archer et al., 2019), and the lack of accountability for trends within baseline and follow up phases (Howard et al., 2015). The use of weighted statistics has thus been suggested as a more reliable method of calculating the impact of interventions (Archer et al., 2019; Howard et al., 2015). However, Beeson (2015) argues that although weighted statistics is highly beneficial to primary analysis of single subject data it is not recommended for secondary analysis. She continues to recommend  $d_{BS}$  despite its criticisms, as a measure of calculating effect sizes on the premise that the by-item analysis used in weighted statistics is almost never included in published papers, nullifying its value for comparison across studies; Busk and Serlin's  $d_{BS}$  on the contrary, has greater value for comparison across studies owing to its extensive application in published aphasia literature and has been repeatedly reviewed and studied. An attempt has therefore been made to report on effect sizes of the chosen and commonly used (Simmons-Mackie et al., 2016)

outcome measures. However, accurate interpretation of the calculated effect sizes was not possible owing to the paucity of existing literature on effect sizes for these measures (see chapters 6 and 11). The availability of raw scores of the participant data as well as the findings reported, however, can be used for the purpose of comparison with other studies reporting on the same outcomes and therefore fulfils the objective of expanding the evidence base of CPT.

Reflecting on the application of both weighted statistics and  $d_{BS}$  to the primary and secondary analysis of the data from this study, and in consideration of the criticisms and arguments discussed, the findings of this study suggest that researchers actively consider the use of weighted statistics for primary analysis of data and increasingly report on effect size calculations. Including these methods of analysis and reporting of such findings will enable researchers to generate benchmarks for effect sizes relating to measures of communication participation and quality of life such as those frequently used in studies exploring CPT interventions. In addition, in consideration of the benefits of weighted statistics in terms of addressing some of the criticisms of other effect size measures (see Archer et al., 2019; Howard et al., 2015), as well as the low levels of effect size data available for communication participation measures, it could be suggested that increased use and reporting of weighted statistics may offer a valuable option for secondary analytical procedure and aid future research carrying out a meta-analysis of CPT studies.

The use of mixed methods, multiple case study approach, and weighted statistics was largely beneficial to the described challenges that were inevitable in consideration of the context. In addition, the finding that that the measure of support and participation in conversation for CPs and pWA respectively, was not directly correlated with aphasia severity, (see chapter 11) supports the decision to explore each dyad individually rather than as a group. Similar findings reported in studies exploring communication interactions with people with dementia (e.g., Baker et al., 2015) reiterate the need to view and explore people with communication impairments associated with aphasia and dementia as individuals with unique communication strengths and needs (*ibid*). The lack of clarity about who may benefit from CPT approaches (Eriksson, Hartelius, et al., 2016) such as CPT-In, further supports exploration of its impact on each individual dyad rather than as a group. Identification of some extraneous factors that may have contributed to the improvements in communication was possible owing to the use of a qualitative tool – the CAT framework – to document the changes in the communicative behaviour of the participants within each dyad. The chosen multiple case study using single subject procedures and the WEST method of statistical analysis allowed me to conduct an experimentally sound and rigorous study complemented by the qualitative components that added to the richness and quality of the study. The resulting interpretations are therefore more reliable and can be better applied to similar real-world contexts.

#### **14.2 Limitations of the study**

Challenges faced during the planning, recruitment, data collection and analysis of a study are to be expected from any study and sometimes affect the quality, design, and the overall product. This section addresses the challenges faced and the limitations in terms of adhering to the procedure, recruitment of participants, quality of the data—naturalness, blinding and the risk of bias and finally the transferability of the findings.

During the process of data collection, several challenges were faced in terms adhering to procedure both in phases one and two. During data collection in phase one to explore the domestic lives of people with aphasia and their families, the family members were observed to use the researchers visits as an opportunity to vent, share their stories, voice their needs and challenges and as a welcome change of scene. This introduced a social and support element to the researcher's visits which made it a challenge to adhere to the role of 'participant observer'. It must also be acknowledged that the desensitisation period of ten minutes may have been insufficient. The rapport building during acclimatisation may have therefore contributed towards the social element described and is a limitation of the design. In phase two, a lot of unprecedented changes (e.g., challenges with recruitment including dropouts, organisational obstacles, time-constraints) occurred during the process of the study, even during the field trial, that led to the use of a single-day generic training for primary communication partners of pWA delivered via both individual and group sessions. While the approach used may not be equivalent to the gold standard in an ideal world, it was deemed most appropriate for exploration in the Indian context at this introductory stage. CPT approaches may or may not involve pWA as co-trainers or as trainees during the intervention (Simmons-Mackie et al., 2016). The conversation partner scheme on which the CPT-In was based considers the involvement of trainers with aphasia as a crucial element of the intervention (McVicker, 2007; McVicker et al., 2009). Challenges at the organisational level at the main centres where the data collection was carried out restricted the scope of this study in relation to the involvement of pWA. It is important however, that the involvement of pWA as trainers in future CPT interventions within the Indian context be considered for exploration.

During phase two, the high levels of attrition observed particularly during the recruitment and during the initial baseline phase as well as some attrition at the time of intervention and loss to follow up is not uncommon in aphasia research (Hilari et al., 2021) and particularly in the Indian context (Karanth, 2012). In this study, dropout was associated with reasons including illness of the pWA, availability of caregiver, illness of caregiver (third party disability) and death. Ensuring minimal attrition from studies involving more than one baseline, such as this, requires a lot of resources in terms of personnel, time and finances (see Hilari et al., 2021). While the resource constraints in terms of finances, time and personnel in this study influenced the ability to address the challenges with recruitment, it resembles the real-world challenges with aphasia rehabilitation and research within the Indian context. The recruitment of participants to the study, following screening for fit with the inclusion and exclusion criteria, was based on the participants availability to participate in the study. The risk of a selection bias in the recruitment of participants therefore cannot be ruled out. However, rich description of the participants within each dyad allows careful interpretation of the findings.

Maximising the naturalness of elicited conversations poses a challenge for this type of social and behavioural research exploring interventions. While attempts were made to ensure naturalness of the conversations recorded, they were within an allocated time and at the hospital site in the presence of minimally intrusive recording equipment. In some dyads, the participants were observed to purposefully extend the conversation to use up the time allocated which would differ from natural conversations (Baker et al., 2015) that

start and end as needed. In these video-recorded conversations, the use of taught strategies during conversation owing to awareness of the recorded conversations being evaluated may also risk some degree of bias associated with social desirability.

The challenges of mixed methods research, and the values inherent in each qualitative and quantitative method, posed challenges. While for qualitative research the embedded nature of the researcher was beneficial for thorough, situated analysis, the pre-post analysis of the quantitative data would typically call for blinding of the assessor. In this case, the assessor was not blinded. Although the video recordings were coded and anonymised, elements of the recording such as changes in observed communicative behaviour following the training were suggestive of which phase the recordings were taken from. It was impossible to blind the researcher during the assessments as analysis required evaluation of communication from video recordings which revealed the participants from who the recordings were taken. The use of a blinded second-rater however, with a good inter-rater reliability of 0.619 for the (M)SCA ratings and 0.689 for the (M)PCA ratings suggested the reliability of the analysis. The risk of a response bias associated with the researcher's role in assessment (Blom Johansson, 2012), particularly in supporting the pWA to respond to the SAQOL-39 questionnaire cannot be ruled out. The chosen outcome measures—SAQOL-39 (Hilari et al., 2003; Kiran & Krishnan, 2013) and SOC-13 (Antonovsky, 1993) however, are reported to have strong psychometric properties. For the qualitative analysis, critical reflection during analysis and interpretations as well as the use of data excerpts for verification where relevant enhances the legitimacy of the findings. In fact, in the context of the application of CAT, the status of the researcher as participant-observer, and an 'insider' to the Indian context are considered a strength.

The non-emblematic nature of the findings has been previously acknowledged in this discussion (section 12.3). However, contextualization, transparency and detail of the setting, procedures, instruments and processes, as well as the use of data excerpts, ensured during the writing up of this thesis facilitate legitimation, transferability and application of the findings from this thesis to contextually similar cases (Onwuegbuzie & Johnson, 2006).

### **14.3 Lessons learned: cultural-linguistic adaptation of CPT and contextual implementation**

It was important that the material developed for the purpose of training was culturally and linguistically relevant (see chapter 7, section 7.4.2). Two key challenges were faced during this process which have implications for future CPT research as well as research on reintegration for people with disabilities, a) The challenge surrounding the lack of publicly recognisable narratives of people with communication disabilities suggests the need to document culturally relevant stories of people with less visible disabilities such as cognitive and communication impairments; and b) Time requirements and complexity when adapting CPT interventions within linguistically and culturally diverse contexts must be borne in mind by researchers who plan to carry out similar studies in future. Those researchers who wish to extend the application of CPT-In to culturally and linguistically similar contexts within and outside India, might be able to refer to the procedures and content laid out in this thesis as well as the examples and content used while ensuring the unique linguistic adaptations to the script are carried out prior to its implementation.

The application of CPT in the Indian context both resembles and differs from what is reported in the literature. This type of generic group intervention that offers generic training is typically implemented for unfamiliar communication partners of pWA such as volunteers or healthcare professionals (Simmons-Mackie et al., 2016) and may therefore differ from the evidence that supports CPT for family members of pWA (Beeke et al., 2014; Croteau et al., 2018; Saldert et al., 2015; Sorin-Peters & Patterson, 2014; Terradillos & López-Higes, 2018). It could be suggested that generic training that addressed several obstructive and facilitatory behaviours in conversation may have been difficult for some CPs to internalise and apply during interaction with their aphasia partners, particularly those in the acute phase. K. Eriksson and colleagues (2016) suggest that highly specified goals rather than generalised goals are easier to internalise. In terms of the design of the approach, the 'generic programmatic' training for family members may also be criticised by CPT researchers on the grounds that it might facilitate improved knowledge of aphasia and supportive communication strategies, but improved communication within the specific dyads might only be a distal outcome (Saldert et al., 2018). The choice of a group intervention, however, was also informed by the observed need for opportunities for social interaction for caregivers, evidenced in the ethnographic observations. This has also been recommended by an aphasia expert group in the Indian context (Pauranik et al., 2019). The hope was that the purposefully created opportunities for discussion, reflection and sharing of experiences within the small group CPT-In training sessions would also create opportunities for participants to reflect on application of the taught strategies within their specific dyads. It could be suggested that the positive outcomes from the application of CPT-In however endorse the 'generic programmatic' training for family members of pWA in the chronic stage within the Indian context, and that they may be particularly relevant where resources are constrained.

Another feature that warrants discussion is the duration of training (5 hours across one day), which was decided in consideration of the practicality, availability of family members for repeated group sessions, and resource availability within the Indian context. Exploration of a resource-efficient model was key to this study, to inform models for majority world countries where SLT services may be limited or non-existent. The chosen duration was acceptable to most participants. It must be considered however that some participants such as dyads 7 and 8 who attended more than one baseline evaluation were unable to make the one-day training session which suggests that a whole day of 'time off' from the typical working day for some participants remains a challenge. This suggests the need to consider ways to enhance the accessibility of the CPT-In program and support its wider implementation. Reducing the duration of the continuous one-day training by increasing the number of sessions across more than one day was expected to see inconsistencies and challenges with availability of members from the same group across multiple days.

Despite the challenges such as the resource constrained nature of the context; particularly, financial resources, time and qualified personnel, the positive outcomes from this study suggest that a one-day generic, programmatic and scripted group intervention is suited to the context. However,

#### **14.4 Future Directions**

The novel application of CPT interventions to the complex Indian context opens a new avenue for research, from further developing and improving the intervention content, accessibility, and delivery in consideration of the challenges encountered during this study, to building on this intervention and extending the training to other communication partners of people with aphasia such as healthcare professionals, community-based rehabilitation (CBR) workers, friends of people with aphasia, students and potentially, community-based volunteers. In addition, linguistic adaptation of the CPT-In manual and studies exploring its implementation in other culturally similar contexts within India and its neighbouring majority world countries should be explored.

The findings discussed in section 12.2 also suggests the potential for, the development of more dyadic focussed SLT support, rather than focussing on 'training on CPs' exclusively, particularly in contexts where the availability of resources and personnel is higher. For the broader resource constrained context however, perhaps a manualised 'support session' arm for the pWA to encourage assertiveness (see 14.4) could be beneficial. This might also offer the opportunity to address the perspectives of pWA on supportive strategies, which might be a factor in determining their response to the modified style of the CPs. Assertiveness training to encourage the pWA to diverge from the nonaccommodative style maintained by the communication partners, and encouraging pWA to use interpretability strategies during interactions with untrained and unfamiliar communication partners (Simmons-Mackie, 2018) should be explored. However, CAT also cautions that assertive communication can have consequences for the perceived warmth or relational solidarity between the interlocutors and proposes the use of 'humorous responses' as a solution (Gasiorek, 2016). The importance and use of humour in the aphasia literature has also been suggested for both pWA and CPs to implicitly acknowledge the competence, effort or skill of the other (Kagan, 1998, 1999), for improved social relationships (Northcott et al., 2015) and for living well with aphasia (e.g., Shiggins et al., 2020). Research could therefore explore assertiveness training for pWA that incorporates the use of humour to encourage them to assert their own competence without risking their perceived relational solidarity and warmth.

Every individual in the PWA's environment can be considered a communication partner. Research exploring the training of other communication partners of pWA must therefore be considered particularly in consideration of the collectivist nature of Indian society. Research based on the development and implementation of CPT programs to train healthcare professionals, rehab workers, students, volunteers in the use of supportive strategies is increasing (e.g., Eriksson, Forsgren, et al., 2016; Hickey et al., 2004; Horton et al., 2016; Horton & Pound, 2018; McVicker et al., 2009). An international collaboration between researchers from the 'World Federation of Neurorehabilitation' and the 'Collaboration of Aphasia Trialists' is currently exploring the development of CPT for healthcare professionals in the context of majority world countries. The findings from this study are already informing practice. In addition, CAT research suggests that the problems and concerns associated with intergroup communication are particularly pervasive in healthcare communication owing to the underlying hierarchical and role-bound structure that governs service delivery and patient care (Watson et al., 2016). The application of CAT

to this thesis may also have the potential to facilitate groups of researchers to use its framework to understand healthcare interactions involving people with aphasia and inform the designing of effective communication training programs.

Moving beyond the usual CPs, the approach explored in CPT-In may lend itself to application with community-based rehabilitation (CBR) workers. CBR workers are members of the local community who are trained to support the rehabilitation and reintegration of people with disabilities in ways such as advocacy, delivering home-based therapy, identifying and supporting people with disabilities within the community and facilitating their access to rehabilitation services and community supports (World Health Organization, 2010). CBR workers are highly resourceful in rehabilitation and reintegration of people with disabilities and their families in majority world countries where resources are limited (Von Groote et al., 2011; WHO, 2011). The importance of resource-development by training community rehabilitation workers, volunteers and family members to carry forward the training to the broader community in India has been suggested by Alim and colleagues (2016). The role of CBR workers in promoting communicatively healthy communities and enriching the communication environment for people with communication disorders has been highlighted but is under-explored (McAllister et al., 2013; Wylie et al., 2013). Maximising on the potential outreach of CBR programs by training their workers in the use of supportive strategies could have significant potential to enhance and enrich the communication environment for people with aphasia. Additional needs assessments will need to be carried out to effectively transfer these programs to the rural areas. The WHO's CBR guidelines (World Health Organization, 2010) recommends the use of CBR as a tool to implement the 'Rights of persons with disabilities' for communities in majority world countries. This is in line with a recent focus of aphasiologists in India, such as Goswami (2020), who call for advocacy of the rights of people with aphasia following on from its inclusion in the "Rights of Persons with Disabilities" Act (2016) in India. Applying CPT-In to the training of community-based rehabilitation workers and volunteers may address some of the challenges with the extreme resource requirements and extreme distances faced in the Indian context and other majority world countries. The generic, abstract and levelled nature of the scripted manual allows for easier adaptation for training other (non-family members) communication partners of pWA and to facilitate cascade training for community-based workers. Training CBR workers to then train families in rural areas would be immensely beneficial. In a family-led rehabilitation study by Alim and colleagues (2016), specific coordinators were appointed to conduct the intervention in the homes of the people. Collaboration with such programs could be a potential route for exploration. However, the labour and resource intensity required to carry out rigorous multiple-baseline and prolonged intervention studies (Reddy & Vranda, 2012) as well as organisational requirements and availability of trained personnel (Pandian & Sudhan, 2013) may pose as a challenge in its implementation (Alim et al., 2016).

Finally, as this study is the first of its kind to apply CAT theory to communication interaction in families involving people with an acquired communication disorder, the framework developed, and the definitions provided and used may act as a framework for use in future research on CPT and aphasia using CAT. Understanding the purpose of communication itself during interaction may also contribute to understanding the nature of adjustments



in made. In this study, CAT was applied to explore the ways in which CPT-In influenced communication adjustment and the consequences for interaction. However, observations from the findings suggest that communication intent clearly influences adjustment in interaction. For example, the feel and flow of interaction and the use of convergence, accommodative interpretability and emotional expression strategies were observed where the purpose of interaction appeared to be for offering support, enquiring about feelings (e.g., dyad 1 extract 10.8, 10.11). Where more accurate information regarding decisions on plans and the way forward appeared to be the purpose, an increased use of accommodative interpretability and discourse management strategies was used (e.g., dyad 1, extract 10.7; dyad 2, extract 10.17). In these interactions, the feel and flow of interaction was sometimes compromised with instances of non-accommodative discourse management behaviour observed (dyad 1, extracts 10.6, 10.7). Where the purpose appeared to be merely for the purpose of interaction as well as for 'speech or communication training' purposes, there was demonstrated significant and consistent use of nonaccommodative discourse management strategies, interpersonal control strategies. Such patterns were observed across dyads and with differences observed within each dyad with the changing purposes of the interaction and therefore warrants consideration in future research applying CAT to communication with pWA.

#### **14.5 Conclusion**

The feasibility and application of CPT in the context of complex resource-constrained majority world countries can be suggested from the findings of this study with benefits for pWA of varying severities particularly in the chronic stages with some evidence for pWA in the acute stages (Simmons-Mackie et al., 2016). While the findings suggest that the implementation saw some challenges with regards to duration, internalising the training, and the attitudes towards communication, that warrant consideration, this study acts as a strong starting point for a new era of research and development in aphasia rehabilitation within the Indian context and that of culturally similar majority world countries.





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