Investigating Polyvictimisation in Child Abuse Cases:
A multi-method study within a Danish Child Protection Context

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Declaration

May 26th, 2020

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Executive summary

Background: Child maltreatment is a universal problem with serious impacts on mental and physical health. The extant literature suggests that different forms of childhood harms tend to co-occur and that exposure to multiple different types of victimisation, also conceptualised as polyvictimisation, is a particularly strong predictor of adverse outcomes among children and youth. The concept of polyvictimisation and its effects have been examined in various studies. However, there is a dearth of research (i) exploring the psychopathological outcomes of children (0-17), who have experienced multiple victimisation, across nations and under different child life conditions; (ii) applying person-centred and sex-specific approaches to childhood victimisation co-occurrence linking profiles of childhood victimisation to adverse mental health outcomes, child background characteristics, and abuse-related factors; (iii) investigating the practical and clinical implications of the polyvictimisation issue within organisations working with child abuse. The current study addresses these research gaps and investigates the concept of polyvictimisation within a Danish child protection context: The Danish Children Centres (DCC).

Objectives: (1): To identify the psychopathology outcomes associated with multiple victimisation exposure among children and youth ages (0-17 years) within the global research literature; (2) To identify distinct, sex-specific profiles of victimisation co-occurrence in a clinical, high-risk child and youth sample (ages 1-17), while also examining adverse psychological outcomes, child background characteristics, and abuse-related factors associated with different exposure configurations; (3) To explore how the findings obtained from research objectives 1 and 2 can inform the interdisciplinary work processes of the DCC and strengthen future case management of multiply-victimised children.

Methods: The research gaps described above were addressed in three research phases. In phase one, I conducted a systematic literature review examining and synthesising the evidence from studies investigating the associations between childhood polyvictimisation and psychopathology. The findings of the review informed the selection of mental health outcome variables in the second phase of the study, a quantitative analysis. In this phase, latent class analysis was used to identify the optimal number of classes to explain victimisation co-occurrence among children assessed in the DCC due to suspected child abuse (N=2,198). ANOVAs and multinomial logistic regressions were used to compare male and female classes across multiple mental health variables, child background characteristics, and abuse-related factors. The findings from the second phase were brought forward to the final phase of the study. In this study part the quantitative findings of phase two were presented back to the employees of the DCC. Qualitative participatory methods such as focus groups discussions (N=13) and group exercises were used with employees at the DCC to investigate the practical implications of the findings, i.e. how the quantitative findings on polyvictimisation can be integrated into future work processes in the DCC and inform recommendations for how to work with complex cases of child abuse in the future.

Results: In phase one, 4,998 relevant references were screened (title and abstract), 255 full-text articles were assessed for eligibility, and 22 met the inclusion criteria. A total of

21 of the 22 included studies reported a significant positive association between polyvictimisation and at least one indicator of child or adolescent psychopathology. The review demonstrated that polyvictimisation, irrespective of how the construct was defined, was positively associated with multiple forms of child and adolescent psychopathology including internalising and externalising problems as well as total psychological distress. Furthermore, polyvictimisation was found to be more strongly associated with psychopathology than individual (sub)types of victimisation across studies. These findings were observed across diverse child and youth populations spanning both normative and high-risk samples and various nations and cultures.

In phase two, sex-specific profiles of victimisation co-occurrence were identified in the DCC child and youth sample. The findings suggested that polyvictimisation is a highly relevant concept within the DCC context since approximately 80% of the children fell into classes characterised by multiple victimisation exposure. Furthermore, different constellations of multiple victimisation exposures were uncovered, suggesting that the exposure to polyvictimisation covers heterogeneous experiences. Female children were characterised by more varied patterns of childhood victimisations (five classes) compared to males (three classes). Inter-class differences were found on mental health outcomes, child background characteristics, and abuse-related variables. Overall, differences in mental health status were most commonly identified between the most broadly exposed groups and the least exposed groups.

Results of the third phase derived from qualitative participatory methods suggested that the victimisation profiles identified in the DCC data and their associations with external variables largely corresponded to the clinical impressions of DCC employees. Furthermore, results from the quantitative analysis were perceived as useful by the employees in terms of providing a general framework for understanding victimisation co-occurrence as well as for offering key guidance for additional points of attention and awareness in the child assessment sessions. Additionally, the different victimisation profiles and the supplementary analysis offered a springboard to increase an interdisciplinary focus on polyvictimisation issues during the cross-sectoral case consultation meetings in the DCC. Results, however, also implied that the employees faced a dilemma in terms of case complexity being misaligned to the legally defined mandate of the DCC. The results suggested that future work with and investigation of the polyvictimisation concept within the DCC context would benefit from a further integration of ecological factors such as parental characteristics and child resilience factors. Finally, a set of recommendations for future work on the polyvictimisation concept were identified spanning four overall categories: data, assessment, final reports and recommendations, and cross-sectoral collaboration.

Conclusion: The results of this study show that polyvictimisation is a highly relevant issue to investigate within high-risk child populations for whom multiple victimisation exposure is the norm rather than the exception. Results implied that polyvictimisation is a substantial risk factor for adverse child mental health spanning both inner-directed and outer-directed difficulties and requires the attention of professionals working with child abuse cases as well as mental health policy makers. The results show that polyvictimisation covers heterogeneous
experiences that are differentially associated with mental health factors and child characteristics. The issue of polyvictimisation was considered important from a

professional point of view in the DCC but also raises questions regarding sectoral responsibilities and division of labour within organisations working with child abuse.
This study contributed to existing knowledge in the topic of childhood polyvictimisation through a synthesis of the various frameworks and concepts for describing the co-occurrence issue of childhood harms, a systematic review of the psychopathology outcomes associated with polyvictimisation, a person-oriented and sex-specific analysis of victimisation co-occurrence and associated factors as well as a better understanding of the practical implications of the polyvictimisation concept within organisations working with child abuse cases. The implications of these findings for theory, policy, and practice are discussed.

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Abbreviations

ACE: Adverse childhood experiences
ACE-Q : the ACE questionnaire
AIC: Akaike Information Criterion
ANOVA: Analysis of variance
BDI-II: Beck Depression Inventory-II
BIC: Bayesian Information Criterion
BIT: Børnehus IT (national children centre database)
BITSEA: Brief Infant-Toddler Social and Emotional Assessment.
BPI: Behaviour Problems Index
BRIEF: Behavior Rating Inventory of Executive Function
BT: Betrayal trauma
BTT: Betrayal trauma theory
BYI-II**:** Beck Youth Inventories II
CA: Content analysis
CAC: Child advocacy centre
CBCL: Child Behaviour Checklist
CCC: The core clinical characteristics
CCMS: The Comprehensive Child Maltreatment Scale
CCRC: The children centre for the capital region
CDC: Centre for Disease Control and Prevention, the Department of Health and Human Services
CES-DC: The Center for Epidemiological Studies Depression Scale.
CDES-PTSI: Children's Dissociative Experiences Scale and Posttraumatic Symptom Inventory
CH: Childhood harms
CI: Confidence Interval
CONTEXT: The collaborative network for training and excellence in psychotraumatology
CoT: Complex trauma
CPA: Child physical violence
CSA: Child sexual abuse
CSS: Cross-sectional study
CTM: Cumulative trauma measure
CuT: Cumulative trauma
DCC: The Danish Children Centres
DDPA: The Danish Data Protection Agency
DIPA: Diagnostic Infant and Preschool Assessment
DNBSS: The Danish National Board for social Services
DPSA : The Danish Patient Safety Authority
DV: Dependent variable
EL: Employee level
EST: Ecological Systems Theory

FGD: Focus groups discussions
FTD: The four traumagenic dynamics model
GAD: Generalised anxiety disorder
GDPR: General Data Protection Regulation
HSD: Tukey's honestly significant difference
HTQ: Havard Trauma Questionnaire
IDPC: Irish Data Protection Commission
IPV: Interpersonal violence
IR: Implementation research
IV: Independent variable
JVQ: Juvenile victimisation questionnaire
LCA: Latent class analysis
LITE: Life incidence of traumatic events
LMICs: Low-and low-middle-income countries
LMR-A: Lo-Mendell-Rubin adjusted likelihood ratio test
LPA: Latent profile analysis
LT: Lifetime
LYLES: The Linkoping's youth life experience scale
M: Mean
MCA: Multiple childhood adversities
MHI: The Mental Health Inventory
ML (Chapter 3): Management level
ML (Chapter 5): Maximum Likelihood estimator
MMR: Mixed methods research/multi method research
MTM: Multi-type maltreatment
NA: Not available
NAN: No approval needed
NCTSN: The National Child Traumatic Stress Network
NS: Non-significant
OCTS: Odense Child Trauma Screening
OR: Odds ratios
PAR: Participatory action research
PI: Principal investigator
PL: Political level
PP Model: Pathway to polyvictimisation model
PT: Polytrauma
PTS: Post-traumatic stress
PTSD: Post-Traumatic Stress Disorder
PV: Polyvictimisation
PY: Past year
QualSyst: Standard quality assessment criteria for evaluating primary research papers
RFC Model: Risk factor caravan model
RQ: Research question
SD: Standard deviation

SDQ: The Strengths and Difficulties Questionnaire
ssaBIC: Sample-size adjusted BIC
TA: Thematic analysis
TAT: Thematic Apperception Test
TCD: Trinity College Dublin
TSCC: The Trauma Symptom Checklist for children
TSCC-A: Alternate version of the Trauma Symptom Checklist for children
TSCYC: The Trauma Symptom Checklist for young children.
THP: The trauma history profile
UCLA PTSD Index: UCLA PTSD Reaction Index for DSM-5
U.S.: United States of America
WHO: The World Health Organisation
YSR: Youth Self Report

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Chapter 1: Introduction

1.1 Background

The maltreatment of children is a serious worldwide problem. Globally, more than one third of children (36%) are estimated to have been exposed to emotional abuse, and nearly one in four children (23%) have experienced physical abuse in their lifetime. Moreover, 16% report exposure to physical neglect and 12% report exposure to sexual abuse (WHO, 2017). Similar estimates exist within the Nordic countries (Sweden, Finland, Norway, and Denmark), where the prevalence of child sexual abuse ranges between 3–23% for boys and 11–36% for girls (Kloppen, Haugland, Svedin, Mæhle, & Breivik, 2016). Substantial rates of exposure to childhood physical violence (3-9%) are also reported within Nordic countries (Kloppen, Mæhle, Kvello, Haugland, & Breivik, 2015). Although no global consensus on the definition of child maltreatment exists (Rumble, Ramly, Nuryana, & Dunne, 2018), it is widely established that different types of childhood ill-treatment negatively impact on the mental and physical health of individuals, both in the short term and throughout the lifespan (Anda et al., 2006; Finkelhor & Browne, 1985; Norman et al., 2012; Wegman & Stetler, 2009).

Despite its noted frequency however, exposure to maltreatment or other potentially traumatic events occurs differently across children. For example, while the risk of being exposed to both specific types of child abuse and accumulated harms is present in high-income countries, it is particularly elevated in low- and lower-middle-income countries (Le, Holton, Romero, & Fisher, 2016). Furthermore, research suggests a specific sex difference in relation to child maltreatment. Female children are at increased risk for exposure to acts of sexual abuse (Aho, Gren-Landell, & Svedin, 2016; Finkelhor, Turner, Ormrod, & Hamby, 2009a; Hines, Armstrong, Reed, & Cameron,

2012; Putnam, 2003), whereas male children are more likely to experience physical abuse (Finkelhor, Turner, Shattuck, & Hamby, 2015; Thompson, Kingree, & Desai, 2004). Moreover, a growing body of research suggests that children exposed to one type of child maltreatment are at an elevated risk of experiencing additional types of mistreatment, and that different types of childhood maltreatment tend to co-occur, overlap, and interact (Cloitre et al., 2009; Debowska,Willmott, Boduszek, & Jones, 2017). Some children therefore carry a disproportional large burden of harmful experiences.

1.2 Exposure to multiple harms in childhood

Finkelhor and colleagues introduced the concept of 'polyvictimisation' in 2005, as a means to convey the multiplicity issue of childhood maltreatment and its associated adverse effects on children and youth (Finkelhor, Ormrod, Turner, & Hamby, 2005a). Similarly, other related terminologies and conceptual frameworks including the 'Adverse Childhood Experiences' (Felitti et al., 1998), 'Multi-type Maltreatment' (Higgins & McCabe, 1998), and 'Polytraumatisation'(Gustafsson, Nilsson, & Svedin, 2009) have been proposed and applied within the research literature to describe the multifaceted nature of child maltreatment. Consistent with a growing body of research suggesting that distinct profiles of multiple childhood harms can be identified in large clinical samples (Adams et al., 2016; Ford, Grasso, Hawke, & Chapman, 2013), the exposure to multiple childhood harms appears to represent a complex phenomenon covering heterogeneous experiences with different possible manifestations across individuals over time. Extant research has found that multiply-victimised children and youth are at especially high risk for adverse mental health outcomes (Finkelhor, Turner, Hamby, & Ormrod, 2011a). Specifically, exposure to multiple types of child maltreatment, and particularly exposures of an interpersonal nature, has shown to be an especially strong predictor of mental health difficulties such as symptoms of depression, anxiety, PTSD, anger, and behaviour

problems (Cyr et al., 2017; Finkelhor, Ormrod, & Turner, 2007a; Segura, Pereda, Guilera, & Abad, 2016).

Despite the noted co-occurring nature of different forms of child maltreatment however, much of the literature on childhood maltreatment has historically investigated different forms of childhood harms in isolation, thereby overlooking a critical aspect of childhood maltreatment (DeHart & Moran, 2015; Hasselle, Howell, Dormois, & Miller-Graff, 2017). For example, the most recent national publication on the prevalence on child sexual, physical, and emotional violence against children and adolescents in Denmark presented prevalence rates of the different types of violence separately, with no emphasis on the aspect of co-occurrence (Oldrup, Christoffersen, Kristiansen, & Vernstrøm, 2016). An increased focus on the multiplicity issue of childhood maltreatment is warranted to fully understand the true burden of children exposed to harmful events in childhood. Given that the risk of exposure to multiple concurrent types of childhood harms is elevated among certain groups such as child populations in contact with the justice or welfare system (Cyr et al., 2012; Debowska & Boduszek, 2017; Ford et al., 2013; Pereda, Gallardo-Pujol, & Guilera, 2018), the investigation of the multiplicity issue of childhood harms is particularly important to address within high-risk child populations worldwide.

1.3 A study of the multiplicity issue of childhood harms in a Danish child protection context

The current study investigates the multiplicity issue of childhood harms within a Danish child protection context. The study is a part of the research programme CONTEXT – The Collaborative Network for Training and Excellence in Psychotraumatology. CONTEXT is an international, interdisciplinary, doctoral training programme involving nine European partner organisations spanning the academic, non-governmental, voluntary, and public sectors. The research programme encompasses 12 PhD projects focusing of

different types trauma-exposed populations. A central aim of CONTEXT is to develop and translate evidence into innovation, improved social policy, and practice by conducting operational research (Vallières et al., 2018). In line with this aim, the current study was conducted in collaboration with the Danish organisation, The Danish Children Centres (DCC). The DCC caters to cases of known or suspected child abuse among children aged 0-17 years. Given that exposure to multiple concurrent types of childhood maltreatment has been shown to be the norm, rather than the exception, among victimised children and children investigated for child maltreatment (Brown, Rienks, McCrae, & Watamura, 2019; Witt et al., 2016), and given the strong links between exposure to multiple harms and adverse mental health, the DCC child population represents a high-risk child population for multiple victimisation and mental health problems.

1.4 The DCC: a cross-sectoral response to child abuse

The DCC were established in 2013 as part of the Danish legal reform 'The Assault Package' 2013-2016. The DCC are the Danish variant of an overall Nordic model for care: The child-centred Barnahus Model, explained in greater detail in Chapter 2, Section 2.14.4.

The key tasks of the DCC are to support and coordinate a cross-sectoral effort in cases of suspected or known child abuse through cohesive and coordinated case procedures, with a specific focus on the perspective and needs of the child (Spitz & Bird, 2017). The DCC also carries out an assessment of the child which contributes to an overall child examination conducted by the local municipality (referred to as the §50 examination in the Danish Service Act). The assessment part conducted by the DCC focuses on the potentially traumatic event(s) and their associated reactions. Finally, the DCC provide a framework for professionals in cases of child abuse across sectors to meet, coordinate their efforts, and share relevant case information.

1.5 Children exposed to multiple harms in the DCC context

Statistics suggest that a consistent percentage of children present with concerns for both sexual and physical violence victimisation within the DCC on an annual basis (Socialstyrelsen, 2018a, 2019a). This indicates that a significant number of children (4-5% pr. year) assessed in the centres have a more complex victimisation history. Given extant research suggesting that children exposed to one type of abuse are likely to have suffered additional types of victimisations and adversities (Finkelhor et al., 2011a), and that rates of child maltreatment and co-occurrence of different forms of childhood stressors are elevated among certain disadvantaged or at-risk populations, such as children in contact with the welfare system, it follows that children assessed in the DCC based on (suspected) physical and sexual harms are also likely to have suffered additional types of ill-treatment. Exposure to maltreatment co-occurrence is therefore likely to extend beyond the categories of physical and sexual violence to also include additional types of harms, such as household alcohol or drug abuse and witnessing violence and abuse of other forms in the home. It is therefore also likely that the symptoms and reactions displayed by the child, as the focus of the DCC assessment, are linked to a broader picture of exposure events.

1.6 Statement of the problem

Despite a number of recent efforts towards estimating or addressing the multiplicity issue of exposure to childhood harms and associated mental health problems in the respective Nordic countries, research addressing these themes in the Nordic countries remains sparse. Given that victimisation co-occurrence is likely prevalent among trauma-exposed individuals, more research on the multiplicity issue of childhood harms among high-risk populations is warranted to better understand the true burden of stressors as well as to

better inform the intervention needs of affected individuals.

The victimisation co-occurrence issue theme has recently been investigated within child and adult samples from Sweden, Denmark, Finland, Greenland, and Norway (Aho et al., 2016a; Aho, Proczkowska-Björklund, & Svedin, 2016; Armour, Elklit, & Christoffersen, 2014; Ellonen & Salmi, 2011; Karsberg, Armour, & Elklit, 2014; Lasgaard, Lindekilde, & Bramsen, 2018; Mossige & Huang, 2017), but most of these studies address adolescent and adult populations with limited potential to inform about multiple victimisation exposure and mental health consequences among children. Most of this literature, and research on victimisation co-occurrence in general has, furthermore, investigated the multiplicity issue of childhood harms using a sum-score approach, with limited potential to inform about the varying impacts of different constellations and configurations of childhood harms that may call for different treatment initiatives. More person-oriented and sex-specific research on childhood victimisation, and in particular among high-risk child populations with diverse victimisation histories and complex mental health needs, is warranted to better understand the complex manifestations and impacts of childhood ill-treatment. Moreover, and while human and social agencies such as the DCC have been established to improve the societal response to child abuse, organisations remain confined to the narrowly defined types of victimisations reflected in the legal frameworks within which these institutions operate. By primarily focusing on the 'presenting problems' (Hamby & Grych, 2013) and their institutional area of expertise (i.e. specific types of abuse), agencies risk missing an opportunity to understand and address additional co-occurring and interacting factors impacting the well-being and functioning of children. The multiplicity issue of childhood harms thus further poses a practical challenge to the services catering to victimised children, due to its complexity and given that the concept is incongruent with the disciplinary siloes and compartmentalisation of child and youth

services currently in place. Therefore, there is a need to not only understand how multiple harms impact victimised children, but also how knowledge of multiple harms can inform practice and policies in the field of child abuse.

Additionally, knowledge of the different types of childhood maltreatment and whether different patterns of exposure are associated with differing psychological symptoms is still unexplored within the DCC population and relatively unexplored within the other Nordic Barnahus contexts[1]. Investigating the interrelations within clinical samples with a large number of victimised children, like the DCC population, therefore provides unique opportunities to investigate the multiplicity issue of childhood harms and to identify distinct patterns of victimisation and adversity co-occurrence, with the potential to both inform and cultivate more powerful theories on victimisation co-occurrence, and target treatment and intervention practices (Ford et al., 2013; Hamby & Grych, 2013). An investigation of the interconnections among different types of childhood harms is therefore warranted in order to provide a more accurate and sophisticated understanding of how configurations of maltreatment affect children's lives. Finally, how findings on exposure to multiple childhood harms, its associated background factors and outcomes can be actively translated into practice is unclear. Existing research has repeatedly pointed to the clinical significance and implications of findings on multiple childhood harms, and especially person-oriented studies on victimisation co-occurrence, and concluded that this research is directly applicable for clinicians working with cases of child abuse (Swartout & Swartout, 2012). Research more specifically addressing and concretely investigating *how* this knowledge can be applied and used by professionals in practice and be integrated into clinical work procedures is

[1] Thulin & Kjellgren briefly described the concept of polyvictimisation in their study on combined treatment for children and parents in physical abuse cases in a Swedish Barnahus context (Thulin & Kjellgren, 2017).

however, still sparse. There remains a need to bridge the research concerned with the multiplicity aspects of childhood harms with current practice, so as to better inform and advance feasible strategies and interventions for multiply-victimised children, while also taking into account the practical and professional context of multi-disciplinary organisations working with child abuse.

1.7 Research goals

This study draws on various theoretical and conceptual frameworks and schemes such as 'Multi-type Maltreatment' (Higgins & McCabe, 1998), 'Polyvictimisation' (Finkelhor et al., 2005a), 'Adverse Childhood Experiences'(Felitti et al., 1998), 'Cumulative Trauma'(Briere & Spinazzola, 2005), 'Complex Trauma'(Cook et al., 2017), 'Multiple Childhood Adversity'(Grasso, Greene, & Ford, 2013a), the 'Co-occurrence Framework' (Hamby & Grych, 2013), the 'Pathway to Polyvictimisation Model'(Finkelhor, Ormrod, Turner, & Holt, 2009b), the 'Risk Factor Caravan Model'(Layne, Briggs, & Courtois al., 2014a), Transactional and or/Ecological Models of Child Maltreatment and Development'(Cicchetti & Lynch, 1993) in the investigation of the multiplicity issue of childhood harms. Furthermore, the study draws on concepts such as 'Developmental Psychopathology' (Sameroff, 2000a), and 'Betrayal Trauma Theory' (Freyd, 1996) to understand the issue of victimisation co-occurrence, and its psychological (child level) and institutional (professional level) implications within a Danish child protection context.

The aim of this doctoral research is to make a unique contribution to the field of Psychology and, more specifically, to the research area of concurrent harmful events in childhood. This research aims to contribute to the existing body of knowledge on the multiplicity issue of childhood harms and its impacts among children and youth by investigating sex-specific profiles of victimisation co-occurrence, associated child

background characteristics, abuse-related factors, and adverse psychological outcomes in a Scandinavian setting and among a high-risk child population for whom exposure to multiple types of victimisation is likely to occur. Finally, the study also applies a more operational-oriented approach to the multiplicity issue of childhood harms to offer specific recommendations for future work practices in complex cases of child abuse.

1.8 Purpose statement and research objectives

The purpose of this study is to investigate the role of exposure to multiple childhood harms in explaining adverse psychological outcomes in a Danish child and youth trauma population (0-17 years), recruited through the DCC. In doing so, this research seeks to offer recommendations for future work practices in cases of child abuse within the DCC context, with an emphasis on complex cases, characterised by multiple exposure issues. To achieve this, three specific research objectives are put forward:

Objective 1: To identify the adverse psychological outcomes/psychopathology outcomes associated with multiple interpersonal victimisation exposure among children and youth ages (0-17 years) within the global research literature. Objective 1 is addressed through answering the following research question:

- Which psychopathology outcomes among children and youth ages (0-17 years) are associated with the exposure to multiple interpersonal childhood harms across the research literature?

Objective 2: To identify distinct, sex-specific profiles of victimisation co-occurrence in a clinical, high-risk child and youth sample (ages 1-17), while also examining the child background characteristics, abuse-related factors, and adverse psychological outcomes associated with different exposure configurations. Objective 2 is addressed by answering

the following research questions:

- Which sex-specific victimisation profiles can be identified in the child and youth population in the DCC population based on the categories of sexual and physical violence victimisation, and other types of victimisations?
- How are the identified profiles associated with adverse psychological outcomes?
- Which child background characteristics and abuse-related factors are associated with profile membership?

Objective 3: To explore how the findings on psychopathology outcomes associated with multiple victimisation exposure, as well as the findings on victimisations profiles and associated mental health, child background characteristics, and abuse-related factors obtained from research objectives 1 and 2 can inform the interdisciplinary work processes of the DCC and strengthen screening procedures and interdisciplinary work processes in relation to child abuse cases. Objective 3 will be addressed through the following questions:

- How can the results from objectives 1 and 2 best be integrated into the interdisciplinary work of the DCC to strengthen future case management of multiply-victimised children?
- Which recommendations for future work on the multiplicity issue of childhood maltreatment within the DCC setting can be derived from the perspectives of DCC professionals themselves?

The first objective of the study is met through a systematic literature review of psychopathology outcomes associated with childhood multiple victimisation in the research literature, taken from research conducted across different national settings, and

across different types of child and youth populations, shedding light on the overall importance of the multiplicity issue of childhood harms and its association with mental health within the child trauma literature, globally. The second objective is achieved through the application of advanced quantitative data analysis techniques to identify different profiles of victimisation co-occurrence among male and female children assessed in the DCC on the basis of suspected or known child abuse. Furthermore, the associations between the identified victimisation profiles, adverse psychological outcomes, and child background characteristics and abuse-related factors are explored to identify the impacts of multiple victimisation exposure and to investigate which children are at especially high risk for multiple victimisation. Finally, the third objective of the research is achieved through qualitative participatory approaches, concerned with the relevancy and applicability of the victimisation co-occurrence issue within the DCC context and how the empirical findings on the multiplicity issue of childhood harms can be used to build recommendations for future work practices, while also acknowledging the multi-disciplinary structure of the DCC work.

1.9 Significance of the study

Findings from this doctoral thesis are relevant to various agencies working with issues of childhood ill-treatment, and especially for the growing number of institutions adopting cross-sectoral and multi-disciplinary approaches to addressing the issue of child abuse. More specifically, the knowledge derived from this study can increase the institutional focus and knowledge on victimisation concurrency and its associated impact, creating a greater professional awareness of the concept across sectors, to better identify children most a risk at an early stage, intervene in relation to their total burden of harmful experiences, and to mitigate additional harm. At a political level, this research will help inform the overall institutional bodies deciding the structural frame and legal mandate of

the DCC work. At a research level, this research will contribute empirical insight into the different constellations of potentially traumatic exposures from a large Scandinavian clinical child data sample, enhancing our understanding of childhood multiple victimisation and contribute to advancing existing theories of complex traumatic exposure and its impacts.

1.10 Thesis structure

Chapter 2 provides a comprehensive review of the extant child maltreatment literature with a specific focus on the multiplicity issue of childhood harms, presenting a number of prominent theories and conceptual frameworks addressing the co-occurrence aspect of childhood victimisation. The chapter also outlines and discusses theoretical and conceptual models for understanding the aetiology of child maltreatment and child development as well as risk factor models for multiple victimisation exposure. The chapter furthermore discusses approaches for understanding child psychopathology and outlines theories addressing the betrayal dimension of child victimisation as a theoretical framework for understanding the psychological impact of interpersonal victimisation occurring in the immediate environment of the child. The outcome of this chapter is a cogent synthesis of current, relevant theory, in support of a rationale for the thesis' objectives.

Chapter 3 outlines pragmatism as the methodological and philosophical foundation underpinning the current study. The protocol for a sequential multi-method study in which both quantitative and qualitative methods are used to answer the different sets of research questions is detailed. The chapter also introduces implementation research and participatory action research as the study strategy of inquiry, in support of a collaborative nature to bridge research and practice. As the current study focuses on trauma-exposed

children as a highly vulnerable population, the ethical procedures and considerations are also described in this chapter.

Chapter 4 presents the results of a systematic literature review addressing the first research objective, advancing our understanding of which types of child psychopathology outcomes that are associated with multiple victimisation exposure worldwide, across different economic strata and diverse child populations (ages 0-17). The outcome of this study part is a comprehensive overview of the different psychopathological outcomes associated with childhood polyvictimisation across 22 studies falling under three overall adverse mental health categories: internalising and externalising problems, and general psychological distress. Furthermore, the chapter provides a set of recommendations for future directions in research on childhood polyvictimisation and its associated mental health outcomes. This chapter also plays an important role in the sequential design of the study, as the results of the systematic literature review were used to inform the selection of outcomes variables taken forward in Chapter 5.

Chapter 5 addresses research objective 2 and investigates whether different sex-specific victimisation profiles, i.e. distinct patterns and constellations of victimisation exposure, exist among boys and girls assessed in the DCC, using the advanced statistical method latent class analysis (LCA). Complementary statistical techniques are also applied to test the discriminant validity of the profiles and to offer further information on the child background characteristics/risk factors, and adverse mental health variables associated with the different profiles of childhood victimisation. The selection of the latter is guided and informed by the findings from Chapter 4. Empirical findings from this chapter are discussed in light of the theory presented in Chapter 2 and existing evidence on profiles or typologies of childhood victimisation.

Chapter 6 focuses on the third objective of the study and investigates how the findings from Chapters 4 and 5 can best be integrated into the interdisciplinary work of the DCC to strengthen future case management in cases with multiply-victimised children. Using qualitative participatory methods involving the DCC employees, including participatory group exercises and focus groups discussions (FGD), this chapter thus focuses on the more practical and clinical implications of the multiplicity issue of childhood harms and investigates the usability and relevancy of knowledge on the multiplicity issue within an organisation working with cases of child abuse. The outcome is a set of recommendations for future work on complex cases of child abuse within the DCC setting, as prioritised by the DCC professionals themselves.

Chapter 2: Literature review

2.1 Chapter outline

The following chapter presents a history of the development and iteration of the dominant frameworks and concepts for describing the exposure to childhood ill-treatment and the multiplicity aspect of childhood harms. The similarities and differences between the terms, frameworks, and concepts are discussed, to inform the formulation and conceptualisation of a 'polyvictimisation construct' for the current study (presented in Chapter 3). Furthermore, the chapter outlines and discusses risk factor models for exposure to multiple childhood harms, and aetiological models/frameworks for child maltreatment, child development, and child psychopathology as well as theories for understanding the psychological impacts of interpersonal harms committed against children by the individuals they trust and are dependent upon.

2.2 The issue of exposure to harmful events in childhood

Childhood ill-treatment is a global problem affecting children around the world, with different types of child maltreatment negatively impacting on the mental and physical health of children and youth both in the short-term and throughout their lifespan (Beitchman, Zucker, Hood, daCosta, & Akman, 1991; Felitti et al., 1998). Estimating general rates of childhood ill-treatment and the impacts of harmful events is challenging however, due to the presence of various definitions, conceptualisations, and operationalisations across legal settings and research contexts (Hansen & Olff, 2018). As a result, numerous terminologies exist and are applied interchangeably in the research literature to describe acts of childhood harms.

2.3 Terminologies to describe the exposure to harmful events in childhood

The concept of 'child maltreatment' is one of many concepts available in the literature for describing acts of childhood harms. Since definitions on child maltreatment can vary according to different societal beliefs and cultural norms (Barnett, Manly, & Cicchetti, 1993; Cicchetti & Valentino, 2015; Hansen & Olff, 2018), to date, no universal and unified definition of the term exist. The World Health Organization (WHO), however, employs the term child maltreatment as an overarching construct for describing acts of childhood ill-treatment, defining 'child maltreatment' as:

> *The abuse and neglect that occurs to children under 18 years of age. It includes all types of physical and/or emotional ill-treatment, sexual abuse, neglect, negligence and commercial or other exploitation, which results in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power* (WHO, 2017).

Child maltreatment, as defined by the WHO, thus entails a broad list of ill-treatment acts, of an interpersonal nature, committed by significant others, with the potential to harm various aspects of the child, ranging from a threat to their survival, to threat to their dignity. The subtypes of sexual, physical, and emotional abuse as well as neglect emphasised by the WHO are consistent with other literature which also perceives these aspects as crucial components of the maltreatment construct (Price-Robertson, Higgins, & Vassallo, 2013). In a recent systematic review, Carr et al. found that child maltreatment (including physical, sexual, and emotional abuse as well as physical and emotional neglect) was associated with a wide range of physical and mental health problems and psychosocial difficulties in adulthood. These adverse outcomes included cardiovascular diseases and psychosomatic disorders, disruptive/aggressive behaviour disorders,

substance disorders, PTSD, anxiety disorders, depression, and attachment and relationship problems etc. (Carr, Duff, & Craddock, 2018).

'Childhood trauma' is another term in the literature used to examine acts of childhood harms or stressors. The National Child Traumatic Stress Network (NCTSN) refers to childhood trauma in terms of a child experiencing a traumatic event, whereby a traumatic event is defined as: *a frightening, dangerous, or violent event that poses a threat to a child's life or bodily integrity. Witnessing a traumatic event that threatens life or physical security of a loved one can also be traumatic'* (NCTSN, 2020). In line with the maltreatment term, as defined by the WHO, the childhood trauma construct centres on violation of trust as a key facet but, furthermore, strongly emphasises the element of potential threat to life. The concept of childhood trauma therefore represents a broader and more comprehensive construct than child maltreatment, as proposed by the WHO, as the childhood trauma term, as formulated by the NCTSN, spans both interpersonal events such as violence and war experiences, and non-interpersonal events, such as serious accidents and life-threatening illness. According to the NCTSN, the experience of indirect exposure or *witnessing* a traumatic event is also particularly important in relation to children, since their safety may be compromised if their caregivers are exposed to and adversely affected by traumatic events (NCTSN, 2020). Similar to the maltreatment concept, different variants and operationalisations of the childhood trauma concept also exist, with some versions encompassing solely interpersonal acts (Hodges et al., 2013). In an integrative review, Mulvihill found that exposure to childhood traumas (including both interpersonal and non-interpersonal harms) was associated with a host of negative health outcomes in adulthood including eating disorders, substance abuse, multiple personality disorders, and autoimmune disorders etc. (Mulvihill, 2005). This is consistent with Carr et al.'s systematic review which found that different types of interpersonal

childhood traumas (such as physical or sexual trauma) were associated with psychiatric disorders in adulthood including mood and anxiety disorders, emotional disorders, personality disorders, and schizophrenia (Carr, Martins, Stingel, Lemgruber, & Juruena, 2013).

'Childhood victimisation' is yet another term used in the literature to describe ill-treatment of children. The concept has been defined as *harm that comes to individuals because other human actors have behaved in ways that violate social norms* (Finkelhor, 2008, p. 23). Particularly important in the victimisation concept defined by Finkelhor is the aspect of human agency and the interpersonal component, as well as the aspects of betrayal, injustice, and immorality that follows acts committed against humans by other humans. Furthermore, the aspect of violation of social norms is important in this conceptualisation of victimisation which points to an understanding of victimisations as socially constructed in relation to given cultural and societal contexts (Finkelhor, 2008). Non-interpersonal incidents such as natural disasters, diseases, and accidents are therefore not included in the victimisation concept (Finkelhor, 2008). Similar to the WHO's child maltreatment term, but unlike the NCTSN's childhood trauma concept, Finkelhor's victimisation construct thus focuses solely on interpersonal acts. The victimisation term, as defined by Finkelhor, entails different types of maltreatment such as sexual and physical abuse, but also includes broader victimisation experiences of the child such as community violence and bullying (Finkelhor et al., 2005a). Childhood victimisation has been found to increase the risk for psychiatric disorders, child psychological distress as well as emotional and social difficulties (Finkelhor, 2008) and has been linked to poor outcomes in adulthood such as substance and drug use, depression, suicide attempts, unemployment, and criminal behaviour (Fernandez et al., 2015; Jackson & Deye, 2015). Similar to both the maltreatment and the trauma

terminologies, different operationalisations of the victimisation concept exist, with victimisation having also been employed as a concept spanning non-interpersonal acts, such as accidents (Adams et al., 2016).

Finally, the concept of 'childhood adversity' is also applied across the literature to describe acts of childhood harms, again with varying operationalisations of the term. McLaughlin defines childhood adversity as: *experiences that are likely to require significant adaptation by an average child and that represent a deviation from the expectable environment* (McLaughlin, 2016, p. 364). Distinctive from the other presented terminologies for childhood harms, the adversity term thus focuses strongly on the *environment* of the child, with adversities defined as events or experiences deviating from the expected environment and which requires a substantial adjustment by the child. The adversity term therefore includes different types of child maltreatment, such as sexual abuse, but also allows for broader environmental stressors and disturbances such as household substance abuse, mental illness among caregivers (Anda et al., 2002), and has also been applied to include adverse experiences in the forms of accidents or natural disasters (Kessler, Davis, & Kendler, 1997). In a recent systematic review, Oh et al. found that childhood adversity (in the forms of child abuse and environmental stressors) was associated with a range of negative health outcomes such as asthma, infections, sleep disruption and somatic complaints (Oh et al., 2018) just as Kalmakis and Chandler in another systematic review (also including child abuse and environmental stressors) documented links between childhood adversity and multiple physical and mental health problems including depression, PTSD, substance abuse etc. (Kalmakis & Chandler, 2015).

The above dominant terms available in the literature to describe acts of childhood harms or ill-treatment demonstrates the wide variation in terminologies, both across and

within concepts. While there are significant overlaps across conceptual constructs, such as the integration of child sexual and physical abuse across all concepts, there are also significant differences in terms of comprehensiveness, i.e. which types of events or actions are considered as falling within the scope of each concept. For example, the distinction between non-interpersonal and interpersonal acts, and whether the former constitute acts of childhood ill-treatment is of considerable debate within the literature. Whereas some constructs, including the WHO's definition of child maltreatment and Finkelhor's concept of childhood victimisation, only include interpersonal acts caused by humans, others, such as the NCTSN's childhood trauma concept and the adversity term, also include acts that are not necessarily intentionally initiated by humans with the potential to violate trust (e.g. illness or injuries). The terminologies also vary in relation to the aspects of proximity and directness. Whereas some terminologies primarily articulate direct exposures, including physical abuse, others also include more distal actions, such as the witnessing of harmful events. Despite the existence of various terminologies and a lack of construct consistency within the field of child ill-treatment however, it is widely recognised that the experience of different forms of childhood harms and stressful events can negatively impact child development and health trajectories on a long-term basis (WHO, 2017).

2.4 The multiplicity and co-occurrence issues of childhood harms

Over the last decades, a growing body of literature has demonstrated how exposure to childhood mistreatment rarely occurs as a single event. One type of child ill-treatment is often accompanied by additional forms, and different types of childhood harms tend co-occur, cluster, and overlap (Debowska et al., 2017; Gallitto, Lyons, Weegar, & Romano, 2017; Hamby & Grych, 2013 ; Layne et al., 2014a; McChesney, Adamson, & Shevlin, 2015). Lanktree et al. and Grasso et al. for example, found that child physical abuse

frequently occurs with witnessing domestic violence or interpersonal violence (IPV) (Grasso et al., 2013b; Lanktree et al., 2008). Likewise, children exposed to physical assault are also found to be at elevated risk for also suffering sexual abuse (Finkelhor et al., 2011a) just as emotional, physical, and sexual abuse in childhood have been found to co-occur (Aebi et al., 2015; Armour et al., 2014).These empirical insights have recently led to an increased scientific focus on the issue of co-occurrence of childhood harms, with a growing body of research specifically addressing the joint and interactive role of different concurrent harms and their role in explaining the manifestation of and variation in adverse health outcomes (Cloitre et al., 2009; Felitti et al., 1998; Hamby & Grych, 2013; Price-Robertson et al., 2013).

This growing body of research thus highlights the danger of examining acts of childhood mistreatment in isolation, whereby adopting a compartmentalised approach is likely to result in an overestimation of the impacts of individual types of childhood harms on adverse health outcomes (Brown et al., 2019; Hasselle et al., 2017). Specifically, previous evidence documenting the associations between individual types of child ill-treatment and psychopathology, e.g. in the forms of systematic reviews, may therefore have overemphasised the predictive power of single types of child abuse on health outcomes (Finkelhor et al., 2007a). A better understanding may therefore come from recognising the full burden of childhood stressors, their interrelatedness, and their joint and complex impact on child and adolescent functioning (Finkelhor, 2008; Hamby & Grych, 2013). The importance of addressing the aspect of co-occurrence is further highlighted by research demonstrating a dose-response relationship between the number of childhood harms and the level of symptomatology, whereby greater exposure to multiple types of childhood harms tends to be more strongly associated with psychological symptomatology than exposure to a single category of ill-treatment or non-

exposure (Bethell et al., 2017; Finkelhor et al., 2007a; Lätsch, Nett, & Hümbelin, 2017; Merians, Baker, Frazier, & Lust, 2018; Shevlin, Houston, Dorahy, & Adamson, 2008; Trauelsen et al., 2015; Turner, Finkelhor, & Ormrod, 2010).

Hence, the last decades have seen a shift in the literature from more simplistic and single-cause-oriented approaches, towards more of a focus on the aspects of multiplicity and co-occurrence when investigating childhood harmful events and their impact (Price-Robertson et al., 2013). However, and just as there are numerous terms proposed in the literature to conceptualise the experiences of childhood harms, various theories, conceptual frameworks and schemes are proposed to explain the phenomenon of childhood trauma or victimisation co-occurrence (Elliott, Alexander, Pierce, Aspelmeier, & Richmond, 2009).

2.5 Co-occurrence frameworks, concepts, and schemes

2.5.1 The Multi-Type Maltreatment (MTM) Framework

In 1998, Higgins and McCabe introduced the concept of MTM (Higgins & McCabe, 1998). The term grew out of increased attention towards the issue of sexual abuse and its adverse impacts, a complementary interest in understanding its potential co-occurrence with other types of childhood maltreatment, and how these concurrently accounted for the variability in psychological outcomes in adults exposed to maltreatment in childhood (Price-Robertson et al., 2013). Specifically, MTM conceptualises the multiplicity aspect of childhood harms as the co-existence of two or more of the following maltreatment subtypes: sexual abuse, physical abuse, psychological maltreatment, neglect, and family violence (Higgins & McCabe, 2001a). The MTM framework evolved from a systematic review of studies assessing more than one type of childhood maltreatment among adult populations. A key finding from this review was that individuals exposed to one type of maltreatment were also likely to have been exposed to additional types of maltreatment

(Higgins & McCabe, 2000a). These findings were further supported by existing empirical studies documenting how different types of childhood maltreatment tended to co-occur and that the accumulation of different types of childhood maltreatment was associated with adjustment problems among adults (Higgins & McCabe, 2000b). Finally, multiply-maltreated individuals were found to endorse poorer outcomes than individuals who had experienced a single type of childhood maltreatment (Higgins & McCabe, 2000a; Price-Robertson et al., 2013).

The primary tool used to operationalise and assess for MTM is the Comprehensive Child Maltreatment Scale (CCMS) which measures the five aforementioned types of childhood maltreatment. The tool was originally developed for retrospective reporting by adults but is also available in a parent report version. Both scales have demonstrated adequate test-retest reliability and internal consistency (Higgins & McCabe, 2001b). The MTM framework thus offers a conceptual framework for investigating and understanding multiple types of childhood harms of an interpersonal nature, with an emphasis of different types of child abuse and neglect.

2.5.2 The Adverse Childhood Experiences (ACE) Framework

In the same year as the MTM framework was introduced in the literature, the multiplicity aspect of childhood harms was being assessed in a large U.S. health study, also referred to as the first 'ACE' study. In this piece of work, Felitti and colleagues investigated the long-term links between a range of adverse experiences in childhood (ACEs) and later indicators of health and well-being (Felitti et al., 1998). The ACE framework and the complementary conceptual model of the 'ACE-pyramid' (Felitti et al., 1998) (see Figure 2.1) thus offers another relevant approach for studying and accounting for the aspects of co-occurrence and interrelatedness of childhood harms and their influence on health and life conditions across the lifespan. Whereas the MTM framework has vastly been applied

within psychological and social science research however, the ACE scheme has anchored the issue of child maltreatment within the field of medicine (Finkelhor, 2018). To date, the ACE framework has been comprehensively applied across scientific disciplines, emerging as one of the most prominent frameworks in the study of child maltreatment.

The original ACE study (The CDC Kaiser Permanent Adverse Childhood Experiences, ACE study) was conducted between 1995-1997 as one of the first studies to concurrently investigate a broad spectrum of childhood adversities and their cumulative impact (Grasso et al., 2013a). The original construct of ACEs reflected in the tool to assess ACEs, the ACE questionnaire (ACE-Q) (Felitti et al., 1998), consisted of seven categories of stressors presented under three superordinate categories of 'abuse', 'neglect', and 'household dysfunction'. The original 'abuse' category was comprised of psychological, physical, and sexual abuse as well as violence against the mother in the home. The neglect component included neglect in a physical and emotional variant. Finally, the household dysfunction domain was spanning the conditions of living with a household member who was abusing drugs or alcohol, mentally ill, imprisoned or had attempted suicide (Felitti et al., 1998).

A key finding from the first ACE study was that exposure to ACEs were common among respondents, with almost two thirds of respondents reporting exposure to at least one ACE event and that ACEs tended to be highly interrelated, with the correlations between individual ACE items significant across all comparisons (Felitti et al., 1998). The study further found that ACEs were strongly associated with a range of risk factors for some of the leading causes of morbidity and premature death in the U.S. including smoking, severe obesity, physical inactivity, depression, alcoholism, and disease conditions such as heart disease, cancer, diabetes, and skeletal fractures among others (Felitti et al., 1998). Specifically, a robust dose-response relationship was identified

between the number of ACEs and multiple risks for adverse health outcomes, suggestive of a strong cumulative effect of ACEs. The study further demonstrated a detrimental aggregated effect of ACEs for respondents endorsing four of more ACEs, with these individuals shown to be at particularly high risk for endorsing disease conditions as well as risky behaviours (Felitti et al., 1998).

The findings of the first ACE study are particularly robust, having been confirmed across a number of other similar studies (Hughes et al., 2017). The significance of the multiplicity aspect of ACEs for example, was again found in a later study specifically investigating the issues of co-occurrence and interrelatedness of ACEs. Dong and colleagues investigated the issue of ACE co-occurrence in a large study employing 10 separate ACE categories: emotional, physical, and sexual abuse, emotional and physical neglect, witnessing domestic violence, parental marital discord, and living with a mentally ill, substance abusing or criminal household member (Dong et al., 2004). They found further evidence for the interrelatedness of ACEs as all ten ACE items were once again significantly correlated with each other. Similarly, more than two thirds of the study population (67.3%) endorsed at least one ACE, and among the group reporting at least one ACE, 86.5% endorsed at least one additional ACE (Dong et al., 2004). The clustering, accumulation, and interrelatedness of ACEs have also been identified in various studies since (Anda et al., 2002; Chapman et al., 2004; Hughes et al., 2017; Kalmakis & Chandler, 2015; Ports, Ford, & Merrick, 2016). Exposure to ACEs and particularly exposure to multiple ACEs and its associations with a range of adverse health outcomes has also been reported by others (Hughes et al., 2017; Zarse et al., 2019) including adverse mental health conditions and problematic behaviours such as PTSD, anxiety, depression, suicide, interpersonal and self-directed violence, and substance abuse etc. (Hughes et al., 2017; Kalmakis & Chandler, 2015). More recently, research employing the ACE

framework has stressed the issue of intergenerational transmission or intergenerational flow of ACEs via processes of disordered parenting, poor attachment patterns, and disrupted and dysfunctional upbringing environments in which caregivers fail to establish safe environments for child nurturing with the risk of creating cycles of adversities, deprivation and ill-health across generations (Kalmakis & Chandler, 2015; Zarse et al., 2019).

The 'ACE-pyramid' (Felitti et al., 1998), the underpinning conceptual and explanatory model of the ACE framework, consists of a range of layers that specifies and nuances the traces and pathways from adverse experiences in childhood to poor outcomes later in life through mechanisms of disrupted development, impairment of social, emotional and cognitive functioning; the adaptation of risky health behaviours; social disadvantages; and ultimately, to disease and early death. The conceptual ACE pyramid model thus represents a biopsychosocial perspective on risk and health (Felitti, 2017) and suggests that social, emotional, and medical problems are complexly interrelated throughout the life span (Felitti et al., 1998). Specifically, the model suggests that behaviours such as smoking and alcohol consumption cannot be simplified as 'risky behaviours' but instead seen as complex actions that represent both a threat to health and which can serve as coping mechanisms protecting individuals from stress perpetuated by early adverse exposures (Felitti, 2017; Felitti et al., 1998).

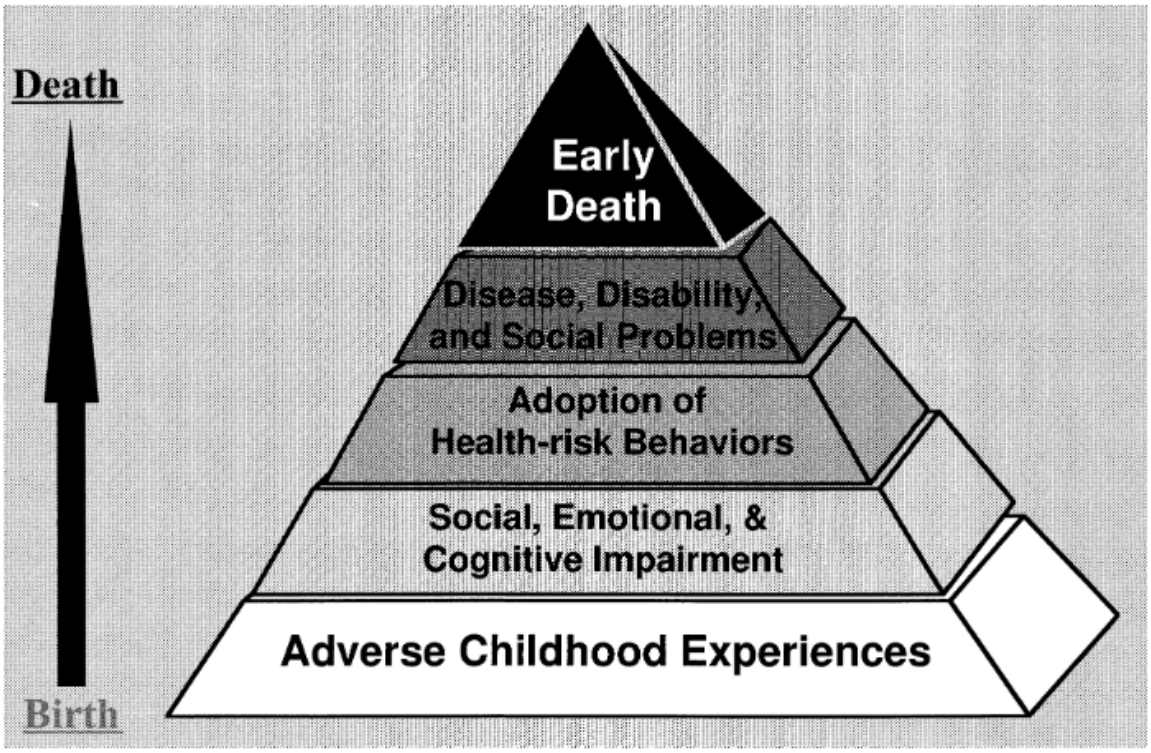


Figure 2.1. The ACE Pyramid (Felitti et al. 1998)

The psychometric properties of the instrument for measuring ACEs - the ACE-Q - have been demonstrated (Wingenfeld et al., 2011). The tool and the original framework have however, been criticised for not incorporating the aspects of developmental timing of exposure, chronicity, severity, or duration of ACEs; all of which are important elements that may moderate the relations to mental health outcomes (Ports et al., 2016; Riem & Karreman, 2018). Furthermore, the ACE measurement tool has been criticised for omitting other recognised childhood adverse experiences such as bullying, peer-rejection, discrimination, community violence, severe verbal offense, and low socio-economic status (Finkelhor, 2018; Shin, McDonald, & Conley, 2018). In light of these shortcomings, a range of studies employing the ACE framework have recently included additional types of childhood adversities such as family conflict or discord, family financial problems, bullying, death of close relative or friend, separation from caregiver, serious illness or injuries (Bethell et al., 2017; Hughes et al., 2017).

The ACE scheme and the conceptual model of the ACE pyramid thus represent one of the most relevant and commonly used frameworks for studying and understanding a broad spectrum of childhood harms, their co-occurrence, and their complex cumulative impact. The ACE literature, taken as an overall body of literature, has, however, predominantly investigated the life trajectories of adults with a retrospective assessment of childhood adversities and a prospective assessment of health. While a body of recent research has applied the ACE-Q among child and youth populations to assess ACEs and health status in childhood (Kerker et al., 2015; Liming & Grube, 2018), the ACE framework was originally designed for use with an adult population. This is reflected in the literature, which is dominated by studies predominantly retrospectively linking measured ACEs to health status in adulthood (Bethell et al., 2017).

Both the MTM and ACE frameworks focus on harms taking place in the proximal environment: the household/home of the child. Whereas the MTM specifically focuses on different types of child abuse and neglect, the ACE framework, however, takes a broader approach to childhood harms and also includes different types of adverse environmental influences such as caregiver substance abuse or incarceration. Both frameworks were originally designed to and have vastly been employed to link adverse experiences taking place in childhood to adverse outcomes measured in adulthood. The ACE and the MTM frameworks and their associated bodies of literature therefore represent important approaches towards our understanding and assessment of the issues of co-occurrence and interrelatedness of childhood harms but may prove less appropriate for describing the links between multiple exposures of childhood harms and short-term psychological outcomes, such as mental health symptomatology manifested within childhood and adolescence.

2.5.3 The Polyvictimisation (PV) Framework

Almost a decade after the ACE and the MTM frameworks, Finkelhor and colleagues introduced their concept of 'polyvictimisation' to address the multiplicity aspect of childhood harms as well as its consequences among children and youth (Finkelhor et al., 2005a). The polyvictimisation term, as proposed by Finkelhor and colleagues, relates to the aforementioned 'victimisation' concept, also presented by Finkelhor, with a strong emphasis on criminal events (Gustafsson et al., 2009). Like the ACE framework, the concept of polyvictimisation also stemmed from empirical findings of a U.S. national survey, conducted by Finkelhor et al., which uncovered that half of the children sampled had been exposed to more than one type of victimisation in the past year, with an average of three past year victimisations (Finkelhor, Ormrod, Turner, & Hamby, 2005b). Children endorsing a higher number of past year victimisations, defined as four or more victimisations, were subsequently labelled 'polyvictims' (Finkelhor et al., 2007a). One of the most robust findings from the early studies by Finkelhor and colleagues was that children exposed to polyvictimisation were at a high risk of displaying adverse psychological symptoms. Polyvictimisation further emerged as a particularly strong predictor of and more highly related to mental health symptomatology than individual subtypes of victimisations, a finding that has later been replicated across studies (Jackson-Hollis, Joseph, & Browne, 2017; Lätsch et al., 2017; Turner et al., 2010).

Alternative definitions of the polyvictimisation construct were later proposed in the research literature. For example, Finklehor et al.'s broader conceptualisation of polyvictimisation as the experience of multiple distinguishable types of victimisations such as sexual abuse, peer and sibling victimisation and family violence all taking place as separate incidents (Finkelhor et al., 2011a). Other studies define polyvictims as those experiencing the highest number of victimisations in a given sample, i.e. the most

victimised 10 percent of the given survey sample (Finkelhor, Shattuck, Turner, Omrod, & Hamby, 2011b; Finkelhor, Ormrod, & Turner, 2009). Polyvictimisation has also been operationalised as a continuous sum- score of victimisations throughout the past year or the lifetime of the child (Cyr et al., 2017; Cyr, et al., 2013), resembling the cumulative score approach applied across the ACE literature. Hence, the polyvictimisation construct has been operationalised as both a categorical construct within varying numerical cut-offs scores to define polyvictimisation status and in the form of a continuous sum-score construct.

The principal research tool used to measure polyvictimisation is the widely-validated Juvenile Victimisation Questionnaire (JVQ) (Finkelhor et al., 2005c). The original JVQ measures 34 forms of offenses or types of events committed against children and youth ages 2-17 and covers five overall victimisation modules: conventional crime, child maltreatment, peer and sibling victimisation, sexual victimisation, and witnessing and indirect victimisation each with a list of sub-items (Finkelhor et al., 2005c). More recent versions of the tool also include family violence, school violence and threat, electronic victimisation, and supplementary neglect items (Finkelhor, Hamby, Turner, & Ormrod, 2011c; Finkelhor, Ji, Mikton, & Dunne, 2013). In addition, the JVQ comprises follow-up questions to elucidate additional important victimisation related information such as perpetrator, weapon use, and the timeframe for victimisation exposure (past year and lifetime) (Finkelhor et al., 2005c). A caregiver-report (proxy version) is commonly used in samples with younger children aged 0-7, with self-report and self-administered versions employed for older children (Hamby, Finkelhor, Ormrod, & Turner, 2005). Polyvictimisation, as measured by the JVQ, has been shown to be a substantial predictor of child psychopathology (Cyr et al., 2017; Finkelhor et al., 2007a; Turner et al., 2010).

In line with both the MTM and the ACE framework, the PV framework, as

conceptualised by Finkelhor and colleagues, is concerned with acts of childhood ill-treatment of an interpersonal nature. The PV framework however, is more comprehensive than the MTM and ACE, including childhood harms both within the immediate context (e.g. different types of childhood maltreatment taking place in the home/household) and those experiences occurring outside these settings (e.g. community violence). Whereas the ACE framework incorporates and conceptualises abuse, neglect, and different types of household dysfunction as equivalent entities under the same overall construct - ACEs - the PV approach distinguishes conceptually between victimisations (e.g. neglect or bullying) and non-victimising adversities (e.g. parental imprisonment, serious illnesses, substance abuse by family members, and parental arguing) (Finkelhor et al., 2009c). These however, are considered different from victimisation in terms of being non-violent types of exposures that may also have a traumatic impact, with the risk of compromising child mental health (Finkelhor et al., 2009c). Therefore, and contrary to the ACE framework, experiences of caregiver substance abuse would not qualify as a victimising event under the PV framework. Consequently, adversities considered as 'non-victimising' are largely excluded in a cumulative construct or multiplicity measure of childhood harms within the PV framework literature. There are exceptions to this however, with a smaller body of recent studies having applied both interpersonal victimisations and non-victimising adversities within their measure of polyvictimisation (Adams et al., 2016; Ford et al., 2013).

The ACE and MTM frameworks also differ from the PV perspective in that the latter is designed specifically for children and adolescents. In other words, the PV framework is designed to measure current or recently occurring harmful exposures, rather than adult retrospective accounts of childhood victimisation. Additionally, most literature using the PV framework aims to link the issue of multiple victimisation experiences to

short-term or current psychological outcomes. In contrast, the MTM and ACE literature typically links childhood harms to health status among adult populations. The PV framework therefore presents a particularly relevant conceptual framework for understanding the co-occurrence of various types childhood harms and their association with child and adolescence mental health status. Unlike the ACE framework however, environmental stressors are not directly included in the multiple-exposure construct of polyvictimisation in the PV framework.

2.5.4 The concept of Complex Trauma (CoT)

CoT is yet another concept presented in the literature as a means to conceptualise and address the multiplicity aspect of exposure to childhood harms (Hamby & Grych, 2013). The CoT term is widely used in the literature with various conceptualisations of the term (Ford, Chapman, Connor, & Cruise, 2012). While some conceptual versions of CoT cover an *exposure* aspect, i.e. exposure to traumatic or victimising events or complex trauma histories, others emphasise an *impact/reaction* dimension of the term, in the forms complex traumatic stress reactions or complex traumatic stress disorder following exposure to harmful events (Ford & Courtois, 2009). The CoT concept has also recently been employed as an umbrella concept to capture various other terminologies applied to describe the multiplicity issue of childhood harms such as polyvictimisation and adverse childhood experiences (Grasso et al., 2013a).

Coined by Herman in response to the observation that some of her clients experienced a more complex form of post−traumatic disorder syndrome, CoT was observed particularly among clients with prolonged and repeated exposures to traumas, such as domestic sexual abuse (Herman, 1992). The CoT concept has since been defined as prolonged and repetitive stressors with an onset within developmentally sensitive and vulnerable stages in the life of the exposed person, e.g. childhood or adolescence

(Kliethermes, Schacht, & Drewry, 2014) . CoT has also been conceptualised as harms that compromise secure attachment with caregiver figures and an associated incapability to self-regulate emotions (Ford et al., 2012; Ford & Courtois, 2009). Furthermore, the CoT term has been conceptualised as the exposure to multiple forms of stressors including victimisations (e.g. physical abuse) and life-threatening accidents or disasters and interpersonal losses, in addition to violence in the forms of war, terrorism, torture, and forced displacement (Ford et al., 2012).

According to Ford, CoT is often both multifaceted (spectrum dimension) and cumulative (repetition dimension) (Ford et al., 2012).Van der Kolk defines CoT along similar lines as Ford whereby CoT is characterised by multiple, prolonged, chronic, and developmentally adverse exposures to numerous events such as physical abuse, sexual abuse, and exposure to war (van der Kolk, 2005), with a strong emphasis on the interpersonal dimension of trauma exposure, however. Exposure to CoT (exposure variant) has been linked to adverse psychological outcomes such as internalising and externalising symptomatology among children adolescents (Briggs-Gowan et al., 2010; Ford et al., 2012; Ford, Connor, & Hawke, 2009).

The concept of CoT has been operationalised and presented in different ways throughout the literature, with the interpersonal aspect of trauma exposure common across the different conceptual definitions. Whereas the PV, MTM, and the ACE frameworks are predominantly concerned with the spectrum component, i.e. the number of *different* and *distinct* types of childhood harmful events, various conceptualisations of CoT further and highly emphasise the elements of chronicity and repetitiveness of exposures (Contractor, Caldas, Fletcher, Shea, & Armour, 2018). Moreover, CoT is concerned with how prolonged and repeated exposures to trauma can negatively impact the development of the mind and the brain of children, and both the short-term and

lifetime consequences of the exposure (van der Kolk, 2005; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). While the concept of CoT is widely used in the literature (Ford et al., 2012), it has yet to be presented in the form of a more integrated framework.

2.5.5 The concept of Cumulative Trauma (CuT)

The co-occurrence of childhood harms is also examined using the concept of CuT within the literature. Similar to CoT, the CuT term has been conceptualised and employed in different ways across the literature. Moreover, and again like CoT, CuT is not presented as a single framework and does not feature as prominently throughout the literature as the ACE or the PV frameworks. The term CuT can be traced back to the work of Briere and Spinazzola (Briere & Spinazzola, 2005; Grasso et al., 2013a). CuT has been empirically employed to investigate the links between cumulative traumatic experiences (i.e. the total lifetime number of different types of trauma) and psychological symptom complexity within adults (Briere, Kaltman, & Green, 2008), and children and adults (Cloitre et al., 2009).

Cloitre's conceptualisation of CuT bears a strong resemblance to the MTM concept, with its inclusion of interpersonal acts of child physical, sexual, and emotional abuse, and neglect, but also includes separation from the mother as a traumatic incident (Cloitre et al., 2009). On the other hand, Briere et al.'s (2008) conceptualisation of CuT includes both interpersonal and non-interpersonal types of trauma. Both studies however, found that cumulative trauma predicted symptom complexity among children and adults. In a more recent study, Briere et al., however, found that only cumulative trauma, defined as lifetime number of different types of trauma, of an interpersonal nature, predicted PTSD (Briere, Agee, & Dietrich, 2016).

Among studies with child populations, the CuT term has been employed by Hodges et al. as the experience of multiple different types of interpersonal trauma, i.e. the total number of trauma types experienced by an individual (Hodges et al., 2013). Similar to the MTM framework, CuT, as conceptualised by Hodges et al., incorporates child sexual abuse, child physical abuse, neglect, psychological abuse, and witnessing partner violence as entities of interest. CuT has also been applied elsewhere in the literature to describe cumulative exposure to a range of traumatic stressors, including both interpersonal and non-interpersonal events among adolescents (Layne et al., 2014b) and adults (Kira, Fawzi, & Fawzi, 2013). The CuT term has also therefore been conceptualised in a number of different ways, with various tools applied across the literature to measure the CuT constructs, including the Trauma History Profile (THP) (Layne et al., 2014b), the Cumulative Trauma Measure (CTM) (Kira et al., 2013), and the Core Clinical Characteristics (CCC) (Hodges et al., 2013). Similar to the ACE score, studies using the CuT terminology typically approach the issue of childhood harms with a sum-score oriented approach, whereby the focus is accumulation of traumatic events.

2.5.6 The concept of Polytraumatisation (PT)

The term 'Polytraumatisation' (PT) has also been proposed as a concept to examine the multiplicity and co-occurrence issue of childhood harms. Gustafsson et al. (2009) first employed the term PT in their study on trauma exposures and associated psychological symptoms among children. They presented the PT perspective as an extended version of the PV framework proposed by Finkelhor and colleagues, whereby PT is operationalised as the total number of different *potentially* traumatic events (Gustafsson et al., 2009). Therefore, whereas the PV framework focuses solely on interpersonal harms, PT also includes a broader spectrum of stressors not inevitably caused by humans, such as natural disasters and accidents (Gustafsson et al., 2009). The body of literature using the PT term

is still relatively sparse but includes both adult and child samples (Gustafsson et al., 2009; Nilsson, Dahlstöm, Priebe, & Svedin, 2015; Nydegger, Quinn, Walsh, Pacella-LaBarbara, & Dickson-Gomez, 2019). PT has been measured and estimated using different validated instruments such as the Life Incidence of Traumatic Events (LITE) (Gustafsson et al., 2009) and via the Linkoping's Youth Life Experience Scale (LYLES) (Nilsson, Gustafsson, Larsson, & Svedin, 2010). Similar to the literature applying the PV framework, studies using the PT concept has found that exposure to multiple types of potentially traumatic events are substantially associated with negative psychological outcomes, with polytraumatised individuals displaying the worst mental health outcomes (Contractor et al., 2018; Nilsson et al., 2010). The PT concept can thus be differentiated from the MTM, ACE, and PV frameworks by including a broader range of harmful experiences and by also incorporating non-interpersonal events and events taking place outside the proximate environment of the child. Some recent versions of PT also include adverse environmental experiences, such parental divorce or parental mental illness (Nilsson et al., 2015).

2.5.7 The combined scheme of 'Multiple Childhood Adversities' (MCA)

Finally, Grasso et al. (2013a) have introduced a synthesised 'scheme' (MCA) in which aspects from the PV, ACE, and CuT perspectives are combined. This synthesised work is informed by a summary and discussion of co-occurrence literature, thus integrating key features found across different research into the phenomenon of co-occurrence. In the scheme, Grasso et al. introduce a broad conceptualisation of interpersonal victimisation. According to Grasso et al., interpersonal victimisation is linked to an element of betrayal or violation of trust. Interpersonal victimisation can include various types of exposures spanning different forms of child abuse, but also the exposure to broader environmental stressors such as parental mental illness (Grasso et al., 2013a). The specific focus on

interpersonal events in the framework is based on existing evidence suggesting that interpersonal trauma is more detrimental to mental health than non-interpersonal traumas (D'Andrea, Ford, Stolbach, Spinazzola, & van der Kolk, 2012). Unlike the MTM framework and the some variants of the CuT concept, the victimisation construct defined by Grasso, is not restricted to types of child abuse or neglect, but adopts a broader concept spanning both events that can be characterised as maltreatment (as in the MTM framework) or victimisation (as in the PV framework), but also include environmental factors such as household substance abuse and parental incarceration (as proposed by the ACE framework and some versions of the PT concept). Instead of conceptually distinguishing abuse or victimisations from non-victimising adversities, as performed by Finkelhor and colleagues (2009c) however, Grasso et al. incorporate these experiences as parallel events to allow for a better understanding of how these experiences cluster and co-occur and how these multiple types of stressors concurrently affect child mental health.

Grasso et al.'s conceptualisation of victimisation is therefore more similar to the categories of the ACE framework and represents a broader environmental understanding of interpersonal victimisation than the framework proposed by Finkelhor, by including both direct exposures to violence or abuse and other types of adverse experiences related to the home milieu of the child. The conceptualisation of MCA thus covers a broad range of interpersonal experiences related to the upbringing context of the child. Unlike the original ACE framework however, Grasso et al.'s conceptualisation also includes structural factors, such as unemployment, and other factors shown to impact child functioning (Grasso et al., 2013a). This broader conceptualisation of interpersonal victimisation applied in the MCA scheme, and the bridging of different frameworks, thus

enables the studying of children in the broader environmental contexts in which they are embedded.

2.6 Synthesis of co-occurrence frameworks and concepts

The above literature illustrates the existence of various frameworks, approaches, and concepts for conceptualising the co-occurrence and multiplicity aspect of exposure to childhood harms. In line with the general terminologies for capturing the issue of child ill-treatment such as childhood trauma or victimisation, the co-occurrence literature is characterised by both inter- and intra-concept heterogeneity, with some frameworks and concepts comprised of solely interpersonal events and others also incorporating non-interpersonal stressors.

Common across these frameworks and concepts and their associated literature however, is the finding that exposure to multiple childhood harms is a significant and substantial predictor of adverse health outcomes, both in the short and long-term, with the identification of a robust dose-response trend between the number of different types of harms and mental health symptomatology across the co-occurrence literature (Grasso et al., 2013a; Hughes et al., 2017; Le et al., 2016). Moreover, all frameworks and concepts include interpersonal harms as part of their schemes. Interpersonal exposures are, however, differentially defined across frameworks, with some including different types of child violence and/or abuse, and neglect (PV and MTM) whereas others also include household adversity items under the construct of interpersonal victimisation (ACE and MCA). The different frameworks and schemes, however, all conceptualise and define non-violent exposures such as natural disasters as non-interpersonal harms.

Literature using two of the concepts including both interpersonal and non-interpersonal harms suggests that it is the exposures to *multiple different interpersonal* traumas, but not accumulated non-interpersonal traumas, that predict adverse mental

health outcomes (Briere et al., 2016; Gustafsson et al., 2009). This is consistent with the extant trauma literature suggesting that interpersonal harms such as sexual abuse or physical violence are linked to the highest mental health symptoms scores and that interpersonal traumas relative to non-interpersonal traumas have been linked to a broader spectrum of mental health difficulties (Cicchetti & Rizley, 1981; D'Andrea et al., 2012; Forbes et al., 2012; Green et al., 2000; Kessler et al., 2017; Priebe et al., 2018; Smith, Summers, Dillon, & Cougle, 2016; Spinazzola, van der Kolk, & Ford, 2018; van der Kolk, 2005), indicating that these types of stressors have the most detrimental impact on mental health. The interpersonal aspect of exposure thus emerges as a highly important aspect to consider when investigating childhood harms, their co-occurrence, and their impact.

Furthermore, the co-occurrence literature is characterised by inconsistencies in its application of an overarching terminology. Both CoT and CuT have been used as more overall constructs spanning the PV and the ACE frameworks (Grasso et al., 2013a). Other literature, on the other hand, uses CuT to refer to a smaller range of specific types of interpersonal traumas (Hodges et al., 2013). Inter-framework differences also exist in relation to the items and entities included within the concept of 'multiplicity' of child harms. The PV framework, as proposed by Finkelhor (2005a), for example, conceptually distinguishes between victimisations, e.g. sexual abuse and non-victimising events, e.g. parental mental illness, excluding the latter in their polyvictimisation construct. The ACE framework, the MCA scheme, and some versions of the PT concept, on the other hand, includes what Finkelhor and colleagues would consider 'non-victimising' events as part of the overall 'multiplicity concept'.

The different frameworks also vary in their degree of comprehensiveness and the *context* for measuring the occurrences of childhood harms. The ACE and MTM

frameworks, for example, focus on the home/household setting, whereas others, such as the PV, the MCA perspective, and the PT concept also include more distal contexts for exposure (e.g. community violence and car accidents, respectively). Some frameworks are also greatly dominated by the use of certain instruments for measuring harmful or stressful events (e.g. the use of the CCMS in the MTM framework, the JVQ in the PV framework, and the ACE-Q in the ACE framework), whereas concepts such as PT and CuT are assessed through an array of measurement tools across studies. The frameworks also differ in terms of the timeframe for measuring childhood harms, with some frameworks being highly dominated by retrospective (i.e. recall) of childhood harms (e.g. ACE and MTM), and others specifically designed to measure harms among children occurring during childhood (PV).

Most of the frameworks on co-occurrence share a focus on the *spectrum* dimension of childhood harms. In other words, they focus on the number of different or distinct types of childhood ill-treatment when defining and conceptualising their respective 'poly-exposure' constructs. Literature applying the CoT concept, however, also explicitly highlights the aspects of chronicity and repetitiveness of exposures which is also emphasised in the overall MCA scheme. The literature, however, generally suggests that the breadth of exposure is particularly important, with exposure to multiple different types of stressors being particularly detrimental to one's mental health status. Table 2.1 presents an overview of the co-occurrence frameworks, concepts, and schemes, and their similarities and differences.

Numerical thresholds have also been presented within the ACE and PV frameworks to distinguish multiply-exposed individuals from less-exposed or non-exposed individuals. Specifically, the numerical cut-off score of four or more distinct exposures has been identified as critical across the PV and ACE literature (Charak et al.,

2016; Felitti et al., 1998; Gilbert et al., 2009; Hughes et al., 2017; Zarse et al., 2019), indicating that individuals endorsing four of more types of childhood harms are at a particularly elevated risk for a wide spectrum of poor health outcomes, and are endorsing higher symptoms levels relative to non-exposed or less-exposed individuals (Chan, 2015; Finkelhor et al., 2007a; Hughes et al., 2017; Soler, Segura, Kirchner, & Forns, 2013; Zarse et al., 2019).

Finally, and in opposition to the idea that the phenomenon of multiple childhood harms requires its unique conceptualisation, others suggest that the different terminologies applied to describe the issue of co-occurrence are all just proxies for describing a same issue: the accumulation of stressors, or the *allostatic load* (Grasso et al., 2013a). As the above literature demonstrates however, there appears to be important differences between frameworks that render them more or less suitable to examine the phenomenon of co-occurrence within different contexts and populations. In other words, the specific measurement items, e.g. community violence and war-victimisation, proposed by the respective frameworks may be more appropriate for different cultural and societal setting

Table 2.1. Overview of dominant frameworks, concepts, and schemes for the multiplicity issue of childhood harms

Framework	Includes interpersonal CH	Interpersonal CH (1)	Interpersonal CH (2)	Includes non-interpersonal CH (3)	Prospective assessment CH (4)	Retrospective assessment CH (5)	Spectrum-oriented (6)	Chronicity-oriented (7)
MTM	X	X	--	--	--	X	X	--
ACE	X	X	X	--	--	X	X	--
PV	X	X	--	--	X	--	X	--
PT	X	X	X	X	X	X	X	--
Concept/ Scheme								
CuT	X	X	X	X	X	X	X	--
CoT	X	X	X	--	N/R	N/R	X	X
MCA	X	X	X	--	N/R	N/R	X	X

Note: CH: Childhood harms. (1) Interpersonal harms include different types of violence, abuse, neglect (2), Interpersonal harms include environmental stressors (e.g. parental mental illness and substance abuse), (3) Non-interpersonal harms not characterised by an element of betrayal or violation of trust such as natural disasters, car accidents, child sick in the hospital etc., (4) The framework/concept has overall primarily assessed exposure to childhood harms prospectively (measured in childhood or adolescence), (5) The framework/concept has overall primarily assessed exposure to childhood harms retrospectively (measured in adulthood), (6) the framework/concept emphasises the spectrum component of childhood harms, i.e. the exposure to *different* types of childhood harms, (7) the framework/concept emphasises the chronicity component of childhood harms, i.e. the exposure to repeated and prolonged exposures to a certain type of childhood harm. N/R= Not relevant since the concept is primarily used as an overall umbrella term, is defined inconsistently across the literature or the term represents a synthesis of existing literature, i.e. not presenting primary empirical materials. -- = Non-endorsemen

2.7 Multiple exposures to childhood harms: counts and/or constellations?

Despite the variability across and within different co-occurrence perspectives, a common feature across conceptual frameworks or concepts is the use of a sum-score or count-oriented approach to defining a multi-exposure construct. Conceptualised in the literature as 'cumulative risk theory' this suggests a higher number of risk factors increases risk for adverse outcomes in a linear fashion (Charak, Ford, Modrowski, & Kerig, 2019; Rutter, 1988). Literature employing the ACE, PT, or CuT terminologies for example, tend to use cumulative sum-scores to assess the impact of multiple exposure and to investigate the presence of a dose-response relationship between the number of harmful events and symptomatology scores (Ford & Delker, 2018). This cumulative-oriented approach and taking into account the spectrum of different events present across the frameworks, represents a more complex approach to the study of childhood ill-treatment than earlier unidimensional measures and single factor-oriented models, which simply estimated the relationship between separate types of childhood harms and adverse outcomes. The cumulative approach has, however, also been subject to critique.

Extant research argues that the cumulative and simple count approach is problematic because it treats the multiplicity issue as a homogenous experience that fails to capture *how* specific types of childhood harms tend to co-occur within particular clusters or formations that may differentially predict mental health outcomes (Adams et al., 2016; Hughes et al., 2017; Lanier, Maguire-Jack, Lombardi, Frey, & Rose, 2018). In a study using the ACE framework, Lanier et al. for example, found that one specific combination of childhood adversities - parental illness and poverty – of all possible ACE constellations - increased the risk most substantially for special health care needs and had similar association to ill health as having three or more ACEs (Lanier et al., 2018). In

another study, Blum et al. demonstrated how a specific configuration of childhood adversities including neglect, physical and emotional abuse was associated with an increased risk of depressive symptoms which was not the case for other constellations of adversities (Blum, Li, & Naranjo-Rivera, 2019).

The cumulative approach to childhood harms has further been criticised for being too simplistic and for giving equal weight to different events, thus treating different types of harmful exposures as interchangeable experiences (Blum et al., 2019; Grasso et al., 2013a; Hodgdon et al., 2018; Hodges et al., 2013; Maguire-Jack, Lanier, & Lombardi, 2020; McAnee, Shevlin, Murphy, & Houston, 2019; O'Donnell et al., 2017; van Duin et al., 2019). Kalmakis and Chandler demonstrated how certain adverse experiences such as parental mental illness, physical and emotional abuse, and domestic violence served as important predictors across an extensive range of deleterious health outcomes, whereas experiences of parental divorce and imprisonment demonstrated limited predictive power across outcomes (Kalmakis & Chandler, 2015). A growing body of research concerned with childhood mistreatment thus states that polyvictimisation or its related constructs should not be perceived as unidimensional, nor be reduced to simple counts of harmful events or stressors. Indeed, recent empirical evidence, derived using more person-oriented statistical techniques such as LCA and latent profile analysis (LPA), suggests that distinct profiles, each representing different sets and constellations of harmful exposures, are identifiable in large child and youth samples (Ford, Elhai, Connor, & Frueh, 2010; Turner, Shattuck, Finkelhor, & Hamby, 2016). Correspondingly, a growing body of literature investigating polyvictimisation, multiple ACEs or related constructs have empirically identified different *profiles* of victimisation exposure characterised by different patterns and levels of childhood harms (Brown et al., 2019; McChesney et al., 2015; Turner et al., 2016). Extant research thus suggests that studies concerned with the

multiplicity issue of childhood ill-treatment should encompass both the qualitative (types of ill-treatment), and quantitative (counts of ill-treatment events) dimensions (Contractor et al., 2018). Furthermore, there is still much to understand about the phenomena of adversity and victimisation co-occurrence from large clinical samples of victimised children (Adams et al., 2016; Finkelhor et al., 2007b). The co-occurrence literature therefore requires further studies investigating both *count* and *constellation* dimensions of harmful exposures within large clinical populations and at-risk groups - such as the DCC population (Bethell et al., 2017). Information about constellations of childhood harms and their differential associations with mental health outcomes are of great clinical importance since they can guide and more specifically inform intervention programmes that take into account the heterogeneous needs of victimised individuals (Brown et al., 2019).

2.8 Models for understanding the occurrence of childhood harms and risk factor models for multiple exposure

The frameworks presented above represent different ways of conceptualising the phenomenon of co-occurrence, in order to assess and ultimately understand the relationship between exposure to multiple childhood harms and various indicators of mental and physical health. These frameworks however, do not address the questions of *why* childhood harms co-occur, nor do they illustrate the mechanisms facilitating multiple and prolonged exposure to childhood harms and stressors. The following section therefore presents different theoretical models and frameworks that seek to conceptualise the aetiology of childhood maltreatment and child development, the co-occurrence and clustering of childhood harms, as well as the risk factors for exposure to multiple harms in childhood.

2.9 The aetiology of child maltreatment, child development, and child maladaptation

2.9.1 Ecological systems theory (EST)

While Bronfenbrenner's (1979) ecological system theory does not explicitly focus on the aetiological aspects of child abuse and neglect, his framework is foundational to many of the later theories and frameworks of the aetiology of child maltreatment. EST proposes a conceptual framework for describing and understanding how child development is influenced and affected by five different, yet interrelated systems that constitute the child's environment, or the ecology of the child. These five systems, or layers, all influence a child's development through different courses and complex processes.

Bronfenbrenner's original theory described four environmental constructs: the microsystem, the mesosystem, the exosystem, and the macrosystem (Bronfenbrenner, 1992). The microsystem represents the proximate or immediate context of the child with which it directly interacts (e.g. family, childcare or school). The mesosystem represents the association and interconnection between the structures of the microsystems (e.g. the relationship between the child's parents and teacher at school). The exosystem represents the larger social system which can impact the development of the child in a more indirect manner (e.g. parental work schedules), whereas the macrosystem denotes the more overarching societal system of beliefs, values, and laws manifested through the cultural, religious, and socioeconomic ordering of society (Ettekal & Mahoney, 2017), all of which impact the other environmental systems. Finally, Bronfenbrenner also operates with a fifth construct in the theory, the chronosystem, which adds a dynamic and developmental-oriented dimension to the model. The chronosystem depicts an element of temporality and refers to the aspects of change and consistency, e.g. that a child during different developmental stages may relate and respond to different ecological systems in distinctive

ways. Hence, the developmental processes of a child, whether considered normative or problematic, is an outcome of a continuous and complex interplay of numerous factors stemming from multiple embedded areas of life (Zeanah Jr & Zeanah, 2009).

The original EST framework has been the subject of critique over the years. For example, network scholars have questioned the aspect of nesting in the model and has pointed to a need of more thoroughly emphasising the individual in the theory (Ettekal & Mahoney, 2017). The original theory was eventually revised with the introduction of the bioecological perspective and bioecological model (2005, 2006) to incorporate and place greater emphasis on the individual and biological processes of child development, i.e. the active role of the individual in developmental processes, and the dynamic interplay between biological and environmental factors in the processes of child development (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2006; Bronfenbrenner & Morris, 2007; Ettekal & Mahoney, 2017). Specifically, four key components constitute the revised framework of the bioecological model, which balances the biological, environmental, and temporal aspects such as person, context, process, and time in the conceptualisation of child development.

In relation to childhood victimisation, the theory can be used to understand the occurrence of violence as being imbedded within a web of manifold, nested sources of influence including individuals, families, and cultures (Hamby & Grych, 2013). The theory has however, also been criticised for its restricted explanatory capacity in terms of identifying and understanding the causal pathways that lead to violence and interaction of risk (Hamby & Grych, 2013). Nevertheless, it represents an early ecologically and multifactorial-oriented approach to understanding child developmental processes and presents key concepts that have been applied and refined in later theories specifically concerned with the aetiology of child maltreatment.

2.9.2 The aetiology of child maltreatment model

In 1980, Belsky introduced an aetiological model of child maltreatment, which applied and refined central components of the EST model proposed by Bronfenbrenner. Unlike Bronfenbrenner however, Belsky formulated his model specifically in relation to the issue of child maltreatment. Belsky states that previous approaches to the aetiology of child maltreatment have typically been located within and explained by a specific disciplinary domain, e.g. psychiatry or sociology (Belsky, 1980). The aetiological model proposed by Belsky, however, aims to integrate different aetiological standpoints and disciplinary positions by stating that multiple interactive factors, ecologically nested within each other, rather than isolated causal factors, cause child maltreatment (Belsky, 1980). According to Belsky, child maltreatment should therefore be perceived as a social-psychological phenomenon that is affected by various forces. A key assumption of the model is that factors at all ecological levels, e.g. in the proximate context of the family and more distal social structures contribute to the occurrence of child maltreatment (Cicchetti & Lynch, 1993).

Generally, the theoretical framework proposed by Belsky states that the issue of child maltreatment cannot be understood and conceptualised in isolation but should always be studied in relation to the broader contexts in which individuals and families are entrenched (Belsky, 1980). Hence, and in line with the work of Bronfenbrenner, this theoretical framework acknowledges the role that environmental and contextual factors play in the manifestation of child maltreatment. Also, akin to Bronfenbrenner's model, Belsky proposes four contextual levels resembling the ecological layers suggested by Bronfenbrenner.

Unlike Bronfenbrenner however, Belsky specifically links these environmental layers to the issue of child maltreatment. The constructs proposed by Belsky are the microsystem, the exosystem, the macrosystem, and ontogenetic development. Like Bronfenbrenner's, Belsky's microsystem denotes the family systems and different factors within the family that can contribute to incidents of child maltreatment (e.g. child and parent interactions). The exosystem represents structures related to the domain of work or the community that can foster incidents of maltreatment in more indirect ways, e.g. via unemployment and social isolation causing stress within the family environment. According to Belsky, the exosystem is influenced by changes in the larger societal structure or system.

Also, similar to Bronfenbrenner, Belsky's macrosystem denotes values or cultural beliefs, expressed by what is deemed socially acceptable within a given societal or cultural context. The macrosystem therefore may promote or encumber the occurrence of child maltreatment in the other systems through more distal pathways, e.g. via social norms concerning the acceptability of child disciplinary punishment. Finally, the ontogenetic construct introduces an individual agency component into the model. Belsky describes the ontogenetic development as the individual factors associated with the appearance of maltreatment, e.g. individual child traits or characteristics, parental developmental histories, including what maltreating parents as individuals bring with them into the family system and to their role as a parent (Belsky, 1980), which can interact with other systemic factors, such as unemployment stress, to foster child maltreatment. This fourth element in the model can thus be seen as a deviation from Bronfenbrenner's EST model and attempts to incorporate the aspect of individual agency absent from the original EST model. The model proposed by Belsky thus represents a framework that understands

the aetiology of child maltreatment as resulting from the interplay between various factors at different ecological levels. The model does not however, provide much by way of understanding the occurrence and sustainability of multiple, co-occurring types of childhood harms.

2.9.3 The ecological/transactional model of child maltreatment

The ecological approach to child maltreatment and child development put forward by Bronfenbrenner and Belsky are also reflected in the later work of Cicchetti and Lynch, who introduced a developmentally and ecologically oriented framework for conceptualising and understanding child maltreatment as well as child development processes (Cicchetti & Lynch, 1993). Building on and integrating the earlier work by Sameroff and Chandler (1975), Bronfenbrenner (1979), Belsky (1980), and Cicchetti and Rizley (1981), the ecological/ transactional model proposed by Cicchetti and Lynch also emphasises the role of the environment, recognising that children and families are embedded within broader contexts, e.g. communities and societies, and conceptualises children's ecological contexts as interacting systems (Cicchetti & Lynch, 1993).

In line with the work of Belsky, the model further states that child maltreatment is rarely caused by a single factor operating in isolation, but rather the result of multiple factors and processes working in tandem (Cicchetti & Rizley, 1981). Whereas Belsky 's model primarily focuses on the issue of child maltreatment, the ecological/transactional model by Cicchetti and Lynch also includes child developmental processes, the outcomes of maltreatment and children's ongoing adaptation to their environments. The model provides a framework for describing and understanding how environmental factors, caregiver characteristics, and child features operate in dynamic, reciprocal, and transactional processes and interactions over time that can foster child maltreatment and impact child development and functioning (Cicchetti & Lynch, 1993). Also, similar to

the models proposed by Bronfenbrenner and Belsky, the ecological/transactional model outlines different levels or ecological systems that differ in their level of proximity to the child.

The macro level denotes the ideologies, cultures, and beliefs that influence family and societal functioning and that influence the more proximal environments of the child. Specifically, in relation to the issue of child maltreatment, the macro level can promote or condemn the occurrence of violent practices in the other ecological levels through processes of tolerance or intolerance of violence (Cicchetti & Lynch, 1993; Lynch & Cicchetti, 1998). The exosystem considers the social contexts of the communities or neighbourhoods within which families and children are embedded and the social structures that can impact the proximal environment of the child, e.g. the availability of employment affecting the socioeconomic status of the family (Cicchetti & Lynch, 1993). Third, the microsystem represents the proximal context of the child and the family environment that children and families experience and create. This level thus subsumes aspects of family dynamics, marital relationships, and parenting styles (Lynch & Cicchetti, 1998). What is further central to this model are the components also found in the work of Belsky, the ontogenetic level and ontogenetic development, which denotes the unique developmental adaptation of the individual and the features within the individual itself that impact its adaption and development over time (Lynch & Cicchetti, 1998). How children actively and individually cope with challenges across different domains of life, e.g. family, school and community, thus denotes their own ontogenetic development (Cicchetti & Lynch, 1993).

The model further takes a transactional view on risk factors for maltreatment and child adaptation, such that risk in one ecological level can increase risk in another level as well as influencing children's ongoing adaptation. For example, children exposed to

community violence (manifestation of violence at the exolevel) might develop certain behavioural patterns that put them at greater risk for experiencing maltreatment in the home (microlevel) and vice versa (Lynch & Cicchetti, 1998).

According to Cicchetti and Lynch, each level, or each ecological system, can contain what they term 'potentiating' and 'compensating' risk factors that can either increase or buffer against adverse outcomes. Cicchetti and Lynch further add a dimension of temporality to the aspect of risk, differentiating between transient and enduring risks. At all stages of the ecology, enduring vulnerability factors (e.g. biological factors) such as personality traits or protective features (e.g. secure quality of parental relationship) and transient challengers (e.g. temporary parental job loss) and buffers (improvement in the financial situation of the family) can operate in complex and dynamic ways to impact on the emergence of maltreatment as well as child development and functioning (Cicchetti, Rogosch, & Toth, 1997).

A key assumption in relation to the issue of risk is that maltreatment occurs when potentiating factors override compensatory factors (Cicchetti & Rizley, 1981). These different types of risk are present at all ecological layers, and their dynamic interactions and composition, as well as their temporal variability can help explain why some adversities may cumulate and sustain with certain children and why some children experience chronic victimisation and adversity across various contexts over time, but also why some children are resilient towards maladaptive functioning and the development of adverse psychological outcomes (Hamby & Grych, 2013). According to this model, children growing up in dangerous and threatening environments, e.g. where violence is occurring in various contextual systems such as the community and the home, and children exposed to a rearing milieu characterised by a lack of compensatory or buffering factors are at particular risk for developing psychopathology. The negative development

of the child, i.e. problematic behaviours, can then have a transactional effect by contributing to sustaining adversity or to the experience of adversity in additional life contexts. The ecological/transactional model thus presents a more concrete framework for understanding risks for adversity and victimisation as a product of various factors, both individual and environmental, operating and interacting dynamically across various ecological levels over time and also integrates the aspects of individual functioning and adaptation. The ecological/transactional model however, is presented as a lifespan approach with an emphasis on the role of temporality with a strong emphasis on the importance of longitudinal data when studying the occurrence of child maltreatment and child development (Lynch & Cicchetti, 1998). The model still however, represents a relevant overall conceptual framework for understanding the dynamics of accumulated risk and interaction and transaction between different contextual levels, and the environment and individual in relation to child maltreatment and child functioning.

2.9.4 Summary of transactional and/or ecological models

All the models described above highly emphasise the role of environmental factors and underline the importance of studying and including the contexts in which children are embedded (Zeanah Jr & Zeanah, 2009) when conceptualising and explaining the occurrence of child maltreatment and child development. The transactional and/or ecological models thus all stress a scientific need to address the different factors and levels of the child's ecology in order to understand the aetiology of child maltreatment and/or child development. The models further emphasise how child maltreatment and developmental outcomes are seldom caused by single factors operating linearly and in isolation, but rather are manifested through complex, dynamic, and transactional processes over time, including multiple interacting and embedded factors and layers. This assumption aligns with the co-occurrence literature which supports that multiple factors

should be explored and considered concurrently when investigating the impact of child ill-treatment.

Of all these models, the ecological/transactional model represents the most refined framework in terms explaining the phenomenon of multiplicity within childhood harms. While similar to the model proposed by Bronfenbrenner, the model further recognises the role of individual agency, e.g. parental developmental histories and child characteristics, in manifestations and persistence of child maltreatment as well as in child development. The model also reflects and refines the work by Belsky by presenting a broader conceptualisation of the different risk factors or processes of risk that can occur and interact over time and across various ecological systems to sustain, buffer against, and foster new adversity and also integrates outcomes of childhood maltreatment into the model.

2.10 Risk factor models/frameworks for the exposure to multiple childhood harms

The previous section described different but related conceptual models for understanding the aetiology of child maltreatment and/or processes of child development. The ecological/transactional model proposes that risk factors and risk mechanisms, e.g. enduring risks, interactions of risk at various ecological levels, and transactions between the individual and the environment, can help explain why some children experience prolonged victimisation and adversity across various contexts in their lives. The ecological/transactional model is one of many models in the literature that incorporates risk of child victimisation and adversity co-occurrence e.g. risk factors for polyvictimisation or related constructs.

In the same way that early research in the area of childhood harms took a ‘siloed’ approach to different types of childhood ill-treatment, focusing on single types of harms,

the literature on risk factors for trauma or victimisation exposure has also been characterised by a 'mono-thematic approach' characterised by investigating and identifying risk factors for single types of childhood harms such as physical or sexual abuse (Black, Heyman, & Smith Slep, 2001; Finkelhor & Baron, 1986; Stith et al., 2009). Providing an overview of the various risk factors is impeded by the varied approaches and multiple terminologies used to examine the multiplicity aspect of harmful experiences. Some risk factors have, however, repeatedly been proposed as risk factors for the exposure to multiple childhood harms across the literature. Different individual or family characteristics are proposed as increasing the risk of polyvictimisation or polytraumatisation, including living in a single parent/one parent household, living in dangerous communities, family mental health issues, lower socioeconomic status, and prior victimisation or exposure to other adverse life events (Ellonen & Salmi, 2011; Finkelhor et al., 2007a; Lätsch et al., 2017; Lussier, Wemmers, & Cyr, 2016 ; Tossone et al., 2015). Being placed in out of home arrangements, such as foster care, has also been suggested as an important risk factor for or covariate of polyvictimisation, since findings suggest that polyvictimisation is considerably more frequent among youth in care (Cyr, Chamberland, Clément, & Lessard, 2014; Horn, Roos, Beauchamp, Flannery, & Fisher, 2018). Grasso et al. have also suggested that parental psychological traits such as anger and aggression serve as persistent risks for multiple traumatic exposures (Grasso et al., 2013a).

In terms of age and gender or sex as risk factors, existing research varies across national and cultural settings. Some studies employing the PV framework as proposed by Finklehor and colleagues have found that older age is positively associated with polyvictimisation, i.e. older children are more likely to be polyvictims (Ellonen & Salmi, 2011; Finkelhor et al., 2007a) whereas others applying the same framework, but in a

different cultural context, identified a link between younger age and polyvictimisation (Dong, Cao, Cheng, Cui, & Li, 2013). Some studies conducted with U.S. samples found that being male was positively associated with polyvictimisation (Finkelhor et al., 2007a; Turner et al., 2010) whereas others found the opposite tendency, namely that female sex was positively associated with polyvictimisation status (Charak et al., 2019; Ford et al., 2013; Grasso, Dierkhising, Branson, Ford, & Lee, 2016). Studies conducted with Scandinavian samples have similarly found that female children or youth were at increased risk for polyvictimisation (Aho et al., 2016a; Ellonen & Salmi, 2011). Furthermore, research has found that the risk of exposure to different types of victimisation varies across developmental stages of childhood and adolescence. The risk of exposure to sexual victimisation for example, has been found to increase with age (Finkelhor, 2008) suggesting that exposure to certain constellations of victimisation is more likely to manifest at certain ages.

Taken together, the evidence to date suggests that while some tendencies in risk factors are articulated across the literature, the risk factors associated with the exposure to multiple childhood harms appear to be context dependent. In relation to risk factors, it is therefore important to take into consideration aspects such as sex or gender, age, developmental stage, and the specific national and cultural settings, in which the exposure to multiple childhood harms is studied. Drawing on the terminology of the ecological models, the proposed risk factors outlined in the literature represents different ecological levels such as exosystem components of unemployment and dangerous communities, and individual and ontogenetic factors such as parental temperament and developmental histories which highlights the importance of considering various contextual factors when investigating the risk factors for multiple victimisation. Some risk factors such as residing in dangerous communities may be more critical and prevalent in certain societies. When

identifying and conceptualising risk factors for child mistreatment, a need for country-specific research is therefore warranted (Palermo et al., 2019). In addition to individual studies documenting risk factors for polyvictimisation or related constructs, the literature proposes a number of overarching risk factor models describing risks and risk factor mechanisms that confer exposure to multiple childhood harms.

2.10.1 The 'Pathways to polyvictimisation' model (PP model)

Finkelhor and colleagues (2009) have identified four empirically derived pathways shown to increase the risk of exposure to polyvictimisation. These pathways include: 1) residing in a chaotic dangerous community with high crime rates and lack of social support and cohesion; 2) living in a dangerous family characterised by abuse, conflict, and violence affecting the emotional regulation of the child, which, in turn, puts it at risk for additional victimisation outside the home; 3) living in a chaotic and multi-problem family environment characterised by issues of unemployment or substance abuse, lack of supervision, and insecure attachment dynamics; or 4) having emotional or behavioural problems of difficulties that increase risky behaviours, which in turn, generate vulnerability for victimisation and encumbers the ability to protect oneself from harm (Finkelhor et al., 2009b). Drawing on the terminology from the transactional and/or ecological models, this pathway model includes various ecological levels such as the community and the family system but also emphasise the aspect of ontogenetic development, e.g. individual child characteristics that can put the child at risk for multiple victimisation. According to Finkelhor et al. (2009b), these pathways should not be perceived as static, parallel, or secluded mechanisms but as complementary and developmentally sensitive processes, which aligns with the importance of considering dynamic and temporal aspects in the study of child maltreatment, consistent within the ecological/transactional model literature.

2.10.2 The Co-occurrence framework

In 2013, Hamby and Grych introduced the overarching 'Co-occurrence framework' in which they address the issue of interpersonal violence co-occurrence in the dual context of violence victimisation and perpetration (Hamby & Grych, 2013). This framework is less specific than the PP model, opting instead for a broader discussion of risk factors and causes of violence. Referencing the existing literature, Hamby and Grych propose a scheme for understanding common risk factors shared by a range of different forms of violence. This overarching and multifaceted model of risk factors includes individual, demographic, historical, relationship, social, and community factors. Hamby and Grych (2013) posit that interconnections among and clustering of different types of childhood harms occur because many types of childhood ill-treatment share the same the causal antecedents and developmental trajectories. Growing up in a violent milieu is for example one of the most comprehensively supported aetiological factors for both perpetration and further victimisation across the lifespan (Hamby & Grych, 2013). According to Hamby and Grych, all forms of family violence are closely interrelated - not only in terms of different types of physical family violence such as physical child abuse and adult IPV - but also in terms of lack of emotional regulation that can be passed on across family members via social learning processes or related mechanisms (Hamby & Grych, 2013). Consistent with the terminology and concepts proposed by the transactional and/or ecological models, the risk factor scheme proposed by Hamby and Grych entails various ecological levels and includes both macro-related structural risk factors such as subcultural values and attitudes towards violence, and exosystem-related variables such as poverty and unemployment, but also individual factors such as anger or emotional reactivity that can interact with other factors to increase the risk for exposure to multiple kinds of violence (Hamby & Grych, 2013).

2.10.3 The Risk factor caravan model (RFC model)

Another conceptual model for describing and understanding the co-occurrence and accumulation of childhood harms is the RFC model proposed in the work by Layne et al. (2008, 2014a). In this model, the term 'risk' refers to different types of traumatic exposures and loss. The model is formulated as a conceptual tool for describing and explaining the configurations and causal pathways through which adverse causal factors intersect to influence the course of posttraumatic adjustment (Layne et al., 2008). Overall, the RFC model emphasises how different constellations of risk factors (i.e. traumatic exposures and loss) are likely to co-occur and co-vary, aggregate in number, travel in 'caravans' with their host over time and tend to increase the risk for additional traumatic exposures as well as accumulating risk for various adverse outcomes across development (Adams et al., 2016; Layne et al. 2014a).

The model highly emphasises the aspect of co-occurrence since risk factors have been shown to seldom operate or 'travel' in isolation but tend to accumulate and intersect in complex ways over time (Layne et al., 2008). The model further proposes that elements constituting risk caravans often co-occur within people (e.g. poverty, low socioeconomic status, impaired parenting) (Layne et al., 2008).

Consistent with the PP model and the transactional and/or ecological models, the RFC model thus represents a developmentally sensitive approach to trauma exposure and emphasises the temporal and developmental aspect of risk (Layne et al., 2008). A central argument is that risks for exposure to certain stressors vary across different developmental stages. Different types of risk factors may therefore occur at different stages and intersect dynamically over time in complex configurations but are not necessarily initiated by the same causal factors and do not necessarily have similar effects or carry identical risks for adverse outcomes (Layne et al., 2014a).

Central to the RFC model is also an eco-pathological focus, emphasising the role of the broader socioenvironmental conditions and contextual features that foster the occurrence and accumulation of risk factors. Different vulnerability factors such as individual elements of the child or social/environmental factors may intersect with traumatic exposures contributing to child impairment or dysfunction (Hodgdon et al., 2018). As an example, family level risk factors such as parental mental illness tends to co-occur with childhood trauma, increasing the risk for hostile or neglectful parenting (Hodgdon et al., 2018). Thus, and consistent with the transactional and/or ecological models, the RFC model stresses the importance of contextual conditions, variability over time, and the importance of the developmental aspect of trauma exposure. It further places an importance on *person-oriented* approaches to the study of victimisation co-occurrence (Layne et al., 2014a) to investigate how multiple types of risks, that may differentially predict adverse mental health, are configured within the same individual. The RFC model therefore aligns with the logic of the more recent constellation-oriented approaches to the study of multiple victimisation.

2.11 Child psychopathology

A substantial body of literature has documented how childhood harms can negatively impact child development and increase the risk of psychopathology and other adverse outcomes in children (van der Kolk, 2005; Zeanah Jr & Zeanah, 2009). In terms of developmental outcomes, exposure to harms in early childhood, and in particular violent exposures, are associated with damage to the developing mind of the child (Schechter & Willheim, 2009; Scheeringa, 2004). As outlined in the previous section, exposure to multiple types of childhood harms represents a particularly detrimental threat to child mental health and children exposed to multiple different types of interpersonal childhood

harms spanning various ecological domains represent a particularly vulnerable high-risk subpopulation for mental health issues (Spinazzola et al., 2018).

The impact of childhood harms on childhood psychopathy is a challenging area however, differing from adult psychopathology in that the rapid development of a child is less conducive to the static symptomology criteria and diagnostic categories. Assessing the impact of childhood harms on child psychopathology therefore calls for a developmentally sensitive approach to estimating normative and maladaptive behaviours and emotions in children, taking into account what is expectable at a given developmental stage (Garber, 1984; Mash & Dozois, 2003; Ollendick & Hersen, 1983). Nevertheless, the literature contains numerous theoretical frameworks depicting the aetiology of child psychopathology and different determinants of child maladaptation (Mash & Dozois, 2003). As presented by Mash and Dozois (2003), these frameworks include biological and neurobiological paradigms focusing on genetic influences and neurological processes (Pennington & Ozonoff, 1991); attachment models centring on relational aspects and different types of child and caregiver attachment patterns (Bowlby 1973,1988, Ainsworth, Blehar, Waters, & Wall,1978); affective models concentrating on emotion regulation problems (e.g. Cicchetti, Ackerman & Izard, 1995); models focused on cognitive deficits (e.g. Beck 1964); social learning frameworks concerned with social learning difficulties (e.g. Bandura 1977); and family system models addressing structural and systematic assets (e.g. Jacob 1987). These models all represent different explanatory frameworks for the emergence of psychopathology in children, combining distinct features related to the child e.g. biological processes or relational issues between a child and their surroundings.

Most contemporary models on child psychopathology, however, recognise that manifestations of child psychopathology are seldom caused by a single factor and cannot

be assigned to either biological or environmental factors alone. Instead, they are likely to develop and arise out of dynamic and complex interactions between multiple factors over time (Mash & Dozois, 2003). This assumption thus mirrors the postulations articulated in the transactional and/or ecological models on the aetiology of child maltreatment and child development.

Different epistemological stances exist when studying the issue of child psychopathology (Lewis, 2000; Mash & Dozois, 2003). These stances generally represent different epistemological views on the two crucial components of interest when studying child psychopathology: the child and the environment and whether the child and the environment play an active or passive role in the developmental trajectory of the child (Lewis & Rudolf, 2014). Some stances, e.g. represented by the mechanistic models of Hume and Locke perceive both the child and the environment as passive entities (Mash & Dozois, 2003). Others again view the child as a passive but transformable entity and the environment as an active influencing agency, which shapes the behaviour of the child, as represented by the work by Skinner (1953), for example. A third position, in which constructivist theories are located, perceives the child as an active agent constructing the environment whereby the latter is perceived as passive (Mash & Dozois, 2003). A fourth stance, again, perceives both the child and the environment as active entities mutually influencing each other in developmental processes over time (Lewis, 2000). Examples of the latter stance include developmental, dialectic, and transactional models of child development that, in line with the transactional and/or ecological models on child maltreatment, emphasise the role of both the individual and the environment, and their interaction over time when explaining child development and psychopathology (Sameroff, 2010; Sameroff, 2000a). These types of developmental and interactional oriented models grew out of a need for more complex explanatory models that recognise

the influence of contextual factors and the dynamic interactions between child and context in developmental processes (Sameroff, 2000a). Developmental oriented models have been depicted as approaches drawing on general system theory and thereby attempts to integrate both individual and contextual processes in dynamic and dialectic models (Sameroff, 2000b).

Generally, developmentally-oriented psychopathology models focus on the identification of developmental trajectories and the risk and protective factors either increasing or decreasing the likelihood of negative and positive developmental outcomes (Zeanah Jr & Zeanah, 2009). Developmental psychopathology approaches represent a general framework for understanding both normative development and maladaptive deviations, e.g. manifestations of psychopathology, over time and are thus dually concerned with both normative adaptive sequels and maladaptive or deviant outcomes. In line with the evolvement in the literature on childhood harms and the co-occurrence literature, developmentally oriented models of child psychopathology do not focus on simple single cause-models or 'main effect models' but increasingly recognise and theorise on how multiple sources and factors including the child, the environment and their complex interplay over time explain child functioning and development (Pynoos, Steinberg, & Piacentini, 1999; Sameroff, 2000a). Developmental models thus integrate many different theoretical perspectives such as the biological, cognitive, emotional, and social dimensions of child development (Mash & Dozois, 2003).

One conceptual framework for assessing child psychopathology consistent with the assumptions of developmentally and dialectic-oriented models for understanding child psychopathology is that of Achenbach and McConaughy's (1997). Their framework states that individual child functioning is affected by various factors including both traits of the individual and environmental aspects (Achenbach & McConaughy, 1997).

Achenbach (2000), among others, describes how the field of child psychopathology is influenced by two central paradigm approaches. The categorical paradigm operates with a binary logic whereby mental health diagnoses are defined by either their presence or absence. This type of diagnostic taxonomy is reflected in the American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders, the DSM and in the International Classification of Diseases of the World Health Organization (WHO), the ICD, that represent a 'bottom down' positioned approach whereby diagnostic entities are defined *a priori* as separate diagnostic classifications (Achenbach, 2000). The empirical and dimensional based paradigm, on the other hand, represents a deductive and continuum-oriented approach that operates with quantitative spectrum scoring of problems that can subsequently be aggregated into syndromes on the basis of statistical procedures (Achenbach & Rescorla, 2013). The Achenbach System of Empirically Based Assessment (ASEBA) (Achenbach, Rescorla & Maruish, 2004) is representative of this latter approach.

According to Achenbach et al. (1997) and Pynoos et al. (2009), a quantitative, continuum, and spectrum-oriented approach to child psychopathology may represent a particularly sensible approach as it better captures variability in child functioning, as well as patterns of symptom co-occurrence in children and youth, facilitating a better and more nuanced identification of mediating and moderating factors. Other literature, however, suggests that the categorical and continuous paradigms act as complementary approaches, each with their different strengths to classify child psychopathology (Achenbach, 1980; Egger & Angold, 2009; Mash & Dozois, 2003).

As a part of the empirical paradigm, two broad dimensions of child psychopathology exist. The first dimension, termed internalising problems, primarily encompasses problems that are 'inner-directed' and related to the self, such as expressions

of unhappiness or fears and can include depression, anxiety, social withdrawal (Achenbach & McConaughy, 1997; Tandon, Cardeli, & Luby, 2009). These symptoms have also been conceptualised as over-controlled behaviours (Mash & Dozois, 2003). The second dimension, externalising problems, generally comprises a social aspect manifested through problems with others, such as aggressive or delinquent behaviours or hyperactive expressions (Achenbach & McConaughy, 1997; Levesque, 2011). These types of behaviours have also been referred to as under-controlled behaviours (Eisenberg et al., 2001). High rates of comorbidity between internalising and externalising problems have been documented in the research literature (Achenbach, 1982; Chase & Eyberg, 2008; McConaughy & Skiba, 1993; Willner, Gatzke-Kopp, & Bray, 2016). According to the extant literature, the internalising and externalising problem spectra represents one of the most widely agreed upon taxonomies in psychopathology research (Achenbach, Ivanova, Rescorla, Turner, & Althoff, 2016).

2.12 Outcomes of multiple childhood harms

As outlined in the co-occurrence frameworks, exposure to multiple childhood harms has been linked to a host of adverse social, mental, and physical health outcomes. Literature drawing on the MTM framework, for example, found that childhood multi-type maltreatment was associated with an elevated risk of adult psychological and behavioural problems such as depression, suicidality, self-esteem problems, delinquent behaviours, and poorer quality of life among adolescents (Arata, Langhinrichsen-Rohling, Bowers, & O'Farrill-Swails, 2005; Jernbro, Tindberg, Lucas, & Janson, 2015). Research applying the PV framework has found childhood polyvictimisation to be a particularly powerful predictor of child and adolescent trauma symptoms (Finkelhor, Shattuck, Turner, Ormrod, & Hamby, 2011). Likewise, multiple ACEs in childhood have been linked to increased risk of poor self-rated health, cancer, mental ill health, problematic drug use,

and interpersonal and self-directed violence in adulthood (Hughes et al., 2017). Exposure to polytraumatisation has been associated with elevated scores of psychological distress among adults and adverse psychological symptoms among children (Gustafsson et al., 2009; Nilsson et al., 2015). Exposure to cumulative trauma has been shown to be a strong predictor of PTSD, depression, somatisation, anger, and emotion dysregulation among adults and has emerged as an important predictor of symptom complexity among children and adults (Cloitre et al., 2009; Grasso et al., 2013a) just as complex trauma exposure has been linked to psychiatric and addictive disorders and chronic medical illness throughout the lifespan (Cook et al., 2017). Hence, across these multiple different conceptualisations and frameworks available to address the co-occurrence issue of childhood harms, studies have consistently shown that exposure to multiple harms, and particularly exposures of an interpersonal nature in childhood, represents an especially detrimental health threat. The findings on adverse outcomes associated with multiple childhood harms outlined above are, however, mainly derived from individual studies. In order to more thoroughly and comprehensively estimate and understand the adverse outcomes associated with the exposure to multiple childhood harms, evidence from systematic reviews drawing conclusions on the basis of multiple studies, is warranted. To date, different relevant systematic reviews exist that summarise and synthesise evidence on the associations between exposure to multiple childhood harms and adverse health outcomes.

A systematic review on the associations between childhood polyvictimisation and mental health among children and adolescents (ages 0-18) was recently conducted by Le et. al. (2016). The review found that childhood polyvictimisation (exposure to multiple different types of interpersonal victimisations) across studies, was associated with an increased likelihood of mental health difficulties including PTSD, depression, anxiety, low self-esteem, and behavioural disorders (Le et al., 2016). Le et al. however, focused

on polyvictimisation and mental health solely among children and adolescents from low- and low-middle-income countries (LMICs) and children in the general community with an exclusion of studies representing high-risk child groups such as children in refugee camps or youth in contact juvenile detention centres.

Another recent literature review presented a synthesis of the effects and consequences of polyvictimisation among children, youth, and adults (Lussier et al., 2016). In line with the work by Le et al., the review found that childhood polyvictimisation (multiple exposures of different kinds) was associated with child symptoms of PTSD, depression, anger, aggression, thought disorders, and adolescent delinquency as well as impaired physical health and adjustment difficulties in adulthood (Lussier et al., 2016). Unlike the review conducted by Le et al., this work was not conducted as a systematic literature review and therefore is less comprehensive and methodologically robust.

A related review, which differed from the two previous reviews by adapting the ACE framework, documented the associations between exposure to multiple ACEs (cumulative score) and well-being outcomes in children ages 0-7 (Liming & Grube, 2018). The authors found that exposure to multiple ACEs was associated with behavioural problems such as aggression and attention issues and poor physical health outcomes in a dose-response manner among your children (Liming & Grube, 2018). This systematic review however, focused solely on very young children with limited potential to inform about the adverse outcomes associated with exposure to multiple harms across childhood and adolescence. The review was also based on an extremely small number of studies (n = 7).

Finally, a range of recent reviews have been conducted that examine the links between (profiles of) multiple traumatic, victimising, or adverse events and mental health outcomes (Contractor et al., 2018; Debowska et al., 2017; Hughes et al., 2017; O'Donnell

et al., 2017; Petruccelli, Davis, & Berman, 2019; Rivera, Fincham, & Bray, 2018). In a review of literature on child abuse co-occurrence and associated mental health among child and adult populations, Debowska et al. found that exposure to polyvictimisation (i.e. high rates of multiple victimisation), was associated with the most deleterious effects including both internalising difficulties such as depression and anxiety and externalising problems such as aggression and violent offending, relative to less-exposed individuals (Debowska et al., 2017). O'Donnell et al. found that the exposure to cumulative trauma (both interpersonal and non-interpersonal) throughout the lifespan significantly increased the risk for a host of psychiatric disorders such as PTSD, depression, and GAD across the reviewed literature involving adolescents and adults (O'Donnell et al., 2017).

Based on a review of the ACE literature with adult samples, Hughes et al. found that exposure to multiple ACEs represents a substantial risk factor for a broad range of ill-health indicators. Specifically, the review found that individuals exposed to four or more ACEs were at elevated risk for a wide range of health problems such as poor self-rated health, cancer, sexual risk taking, mental ill-health, problematic drug use, and interpersonal and self-directed violence (Hughes et al., 2017).

On the basis of a review of studies with adult samples, Contractor et al. identified a particularly detrimental effect of aggregated interpersonal or other trauma types and found that adults exposed to high rates and broad spectra of traumatisation throughout the lifespan, i.e. polytraumatisation, displayed poorer mental health status than less-exposed individuals (Contractor et al., 2018).

In a review investigating exposure to maltreatment co-occurrence among children and adults, Rivera et. al found that co-occurrence of multiple forms child maltreatment was associated with higher levels of behavioural problems and impaired health such as externalising difficulties and substance use (Rivera et al., 2018).

Based on a review of the ACE literature on children and adults, Petruccelli and colleagues recently found that exposure to multiple ACEs was associated with a wide range of adverse mental and physical health outcomes such as suicidal ideation, panic/anxiety, psychological distress, behaviour problems, respiratory disease, somatic pain, and memory impairment. In line with the review by Hughes et al., individuals exposed to four or more ACEs were found to be at particularly elevated risk for endorsing adverse outcomes (Petruccelli et al., 2019).

Despite of the application of various constructs to address the multiplicity issue of childhood harms such as polyvictimisation, cumulative trauma, and multiple ACES, the findings from the above reviews underline that exposure to multiple childhood harms constitutes a particularly crucial risk factor for adverse health outcomes in both childhood and adulthood. Unlike the review by Le et al. and Liming et al., the latter reviews, however, included adult samples as part of their inclusion criteria, and/or included studies measuring trauma or victimisation exposure and mental health outcomes in adulthood and/or included studies measuring non-interpersonal trauma. These foci make these reviews less relevant to understanding the associations between multiple interpersonal harms and mental health during childhood. Together, the above reviews suggest a gap in the literature given that current evidence is limited to (1) studies conducted in LIMCs; (2) studies focusing on younger children (i.e. 0-7 years); (3) studies including adult populations and/or measuring mental health outcomes in adulthood and/or including non-interpersonal harms. To date, no systematic review has been undertaken exploring the associations between multiple interpersonal victimisation and psychopathology in childhood (0-17 years) incorporating research from across all economical and global settings and different child conditions, including high-risk and normative child populations.

2.13 The concept of betrayal trauma: a theoretical framework for understanding the impact of interpersonal harms in the context of proximate relationships

2.13.1 Betrayal trauma theory (BTT)

As the outline of the various co-occurrence frameworks and concepts demonstrates, the inclusion of interpersonal harms is a consistent theme throughout the literature, with reference to these events as being particularly salient due to the elements of betrayal and trust, and the violation of social norms associated with these experiences. In terms of the relational aspect of trauma, the literature distinguishes between *abuse* committed by caregivers or other intimates and *assault* (committed by strangers or persons more distal to the child) (Finkelhor, 2008).

Existing evidence has shown that household members are the most common perpetrators of childhood harms such as child physical and emotional violence (Devries et al., 2018; Gilbert et al., 2009) and according to the Centre for Disease Control and Prevention, the Department of Health and Human Services (CDC), the most registered perpetrators in U.S. child maltreatment cases are parents (CDC, 2014). This circumstance further sheds light on the importance of the *relational* circumstances of childhood harms (Spinazzola et al., 2018) and subsequently, the importance of the relational dimension of victimisation exposures when investigating the multiplicity issue.

Research has shown that children exposed to ill-treatment perpetrated by persons they trust and on whom they are dependent upon, such as caregivers, are at particularly high risk for a range of adverse mental health outcomes (Cloitre, Cohen, & Scarvalone, 2002; Kaehler, Babcock Fenerci, Deprince, & Freyd, 2013). Consistent with ecological models depicting that experiences occurring in the immediate environment of the child have the greatest impact on child functioning (Cicchetti & Rizley, 1981), betrayal trauma theory (BTT) represents a framework for understanding the relational dimension of

trauma and the impact of traumatic exposures within the immediate environment of the child (Freyd, Klest, & Allard, 2005), such as when children are victimised by caregivers or other trusted individuals. Betrayal trauma (BT) has thus been defined as a type of traumatic exposure in which persons or institutions that individuals depend upon for survival, harm or violate them in significant ways, via disruption of trust (Freyd, Deprince, & Gleaves, 2007; Freyd et al., 2005). The BTT thus centres on relational and contextual aspects of traumatic events, as well as the issues of trust and dependence with regard to traumatic exposure. This aspect of betrayal is also echoed in Finkelhor's (2008) victimisation concept and in the MCA scheme, where childhood interpersonal victimisation was defined as betrayal actions violating the relational element of trust (Grasso et al., 2013a).

BTT is linked to attachment theory (Bowlby 1973, 1988, Ainsworth, 1978), which states that children are biologically programmed to develop an attachment system to a caregiver at an early stage, since this attachment is essential to survival (Kaehler et al., 2013). The child's relational experiences with the caregiver over time shape and organise the individual's expectations of others and the world. In this way, the relationship formed between the child and their caregiver, i.e. attachment figure, plays an important role in the formation of future relational dynamics (Lee & Hankin, 2009).

An attachment system provides two major purposes: a protection and coping function and an exploratory function. The first function represents a 'safe haven' for situations where the child confronts a dangerous situation. The exploratory function represents a 'secure base' and relates to the aspects of availability of the attachment figure (Kaehler et al., 2013). Divergence occurs when the caregiver, who represents both the 'safe haven' and the 'secure base', inflicts harm upon the child, and thereby also acts as a source of threat, resulting in a violation of trust (Freyd, 1996). Because of this duality:

that the child is highly dependent upon the caregiver (concurrently representing the source of threat), the possibility of escaping the trauma and the threat is limited.

In relation to the concept of BT, Freyd (1996) outlines two different dimensions of trauma exposures: a dimension of fear or life threat and a social betrayal dimension of trauma, through which respective traumatic experiences can vary. An important notion in the BTT framework is that a traumatic experience can still entail an element of danger despite not representing an actual life threat. This element of danger appears through the disruption of attachment, trust, and state of security of the child, and thus takes the form of an indirect type of threat to the well-being and the self-concept of the child, as well as to its beliefs about others and the world (Freyd et al., 2005). As the model suggests, the degree of social betrayal in a traumatic exposure can vary depending on the nature of the relationship with the perpetrator and the state of closeness in the relationship. The BTT maintains that the closer the relationship is between the victimised person and the perpetrating individual, the greater degree of betrayal (Freyd, 1996).

BT therefore holds some resemblance to the victimisation concept as defined by Finkelhor (2008), with its emphasis on interpersonal and intentional aspects of the harmful act and its focus on actions that violate social norms. The BT concept however, further crystallises and nuances the interpersonal, social, and relational dimensions of trauma exposure by emphasising the specific aspect of attachment in traumatic exposures.

Some of the core assumptions in BTT are that not all traumatic exposures affect physiological outcomes with equal magnitude (Gamache Martin, Van Ryzin, & Dishion, 2016) and that the impact of a traumatic event is not necessarily due to the *nature* of the event but is instead related to the nature of the relationship between the victimised person and the perpetrating individual. BTT thereby represents a useful framework for understanding the cognitive, emotional, and social repercussions of child ill-treatment

committed by trusted individuals and the important role that the elements of betrayal and social relations play in the manifestation of post-traumatic responses (Kaehler et al., 2013). A history of BT has been linked to a broad range of psychopathological outcomes such as depression, anxiety, suicidality, anger, interpersonal problems, and re-victimisation in adulthood (Cloitre et al., 2002; Edwards, Freyd, Dube, Anda, & Felitti, 2012; Freyd et al., 2005; Goldsmith, Freyd, & DePrince, 2012; Kaehler et al., 2013) and research has found that trauma exposures higher in the dimension of betrayal are linked to more severe symptomatology (Gamache Martin et al., 2016).

Another important component of the BTT framework is the concept of 'betrayal blindness' or 'traumatic amnesia' which refers to a coping or survival mechanism whereby the traumatised individual blocks out information about the traumatic experience at a conscious level in order to preserve and maintain the necessary element of attachment and dependence to the perpetrator. The preservation of the attachment in the presence of simultaneous harm and threat thus requires a blindness towards the experience of betrayal. The aspect of 'betrayal blindness' may also function as a possible explanatory factor for understanding why some individuals are at greater risk of re-victimisation later in life (Gobin & Freyd, 2009). Specifically, betrayal blindness may compromise the capacity to detect later relational threats, explaining why some individuals at a conscious level appear to remain largely unaware of the ill-treatment and harm they are exposed to. This aspect of the theoretical framework has, however, been criticised with alternative mechanisms other than 'betrayal blindness' proposed for why children uphold the relationship with their perpetrator (McNally, 2007) such as sex, being of younger age, and avoidance symptoms that may also play an important role for the presentation of fragmented and incomprehensive trauma narratives among individuals exposed to BT (Lindblom & Gray, 2010).

Despite of the critiques of the BTT concepts of 'betrayal blindness' or amnesia, the BBT represents a relevant framework through which to understand the impact of interpersonal victimisation, including its incorporation of relational issues of trust, dependence, and attachment inherent to interpersonal traumas. BTT therefore lends itself as a useful framework in contexts where caregivers or other close persons account for the majority of the suspected perpetrators. Recent research, however, also suggests that BT is not a unitary phenomenon and that individuals exposed to BT are characterised by heterogeneity. More research is therefore warranted to better understand different profiles and configurations of BT exposure and to investigate the links between BT and adverse psychological outcomes (Gamache Martin et al., 2016).

2.13.2 The Four traumagenic dynamics model (FTD Model)

Another related theoretical model focusing on the betrayal dimension of trauma exposures is the FTD Model proposed by Finkelhor and Browne (1985) and Finkelhor (1987). The model suggests that child sexual victimisation through processes and dynamics of traumatic sexualisation, betrayal, stigmatisation, and powerlessness can profoundly disrupt the child's self-concept, worldview, and damage the affective capacities of the child (Finkelhor, 1987; Finkelhor & Browne, 1985). For example, the betrayal dynamic relates to a disruption of trust, the traumatic sexualisation dynamic denotes how the sexuality of the individual can be negatively impacted by the abuse, the powerlessness dynamic depicts a violation and invasion of the personal space of the individual, and the stigmatisation dynamic relates to the negative emotional implications of the abuse such as shame and guilt (Cantón-Cortés, Cortés, & Cantón, 2012). The model thus outlines different processes that may mediate the psychological sequels of child sexual abuse in which the aspect of betrayal represents just one dimension. With a focus on sexual abuse, the model thus additionally recognises how some types of trauma may

have a distinct impact on individuals. Hence, this dynamical-oriented and multifaceted model serves a supplementary theoretical framework for understanding the psychological implications of traumatic exposures.

The current thesis investigates the multiplicity issue of childhood harms within a Danish child protection context. The next section describes the context of the research and the organisation in which the multiplicity issue is investigated: The DCC. This is followed by a brief outline of the scope of the problem of child abuse in Denmark. Next, follows an outline of the Nordic models of care in relation to the issue of child maltreatment. Following this, a brief presentation of extant research on the multiplicity issue of harmful exposures in the Nordic countries is presented. Finally, based on these descriptions and the chapter overall, the research gaps addressed by the current study are summarised.

2.14 The context of the research study

2.14.1 The Danish welfare society

Denmark is a small Nordic country with approximately 5.7 million inhabitants, of which 1.16 million are children ages 0-17 years (Elmeskov & Bang, 2018; Danmarks Statistik, 2019). Denmark is divided into five general regions with a total of 98 local municipalities (local authorities, 'kommuner') distributed across five regions. Each region has its own children centre, with some centres administering several venues ("satellites") to cover large geographical distances within their region.

Denmark is characterised by a high level of decentralisation, whereby local authorities retain high autonomy in the organisation and delivery of social services (The Ministry of Social Affairs and Integration, 2011). Local authorities are thus responsible

for monitoring the living conditions of children and youth within the municipality and to initiate early intervention, where necessary, to ensure the well-being of all children. A core characteristic of the Danish society is its structure as a welfare state, which is characterised by a strong public sector and underpinned by a principle of universal equal rights for citizens in terms of social security services. This translates to a high number of public services, such as education and medical services, being equally accessible and free of costs for all citizens, subsidised by the state through high general taxation (Bengtsson, Frederiksen, & Larsen, 2015). Among these public services are social services for those children and families in need, including in the case of suspected or known child abuse.

2.14.2 Procedures in cases of child abuse

A number of procedures are in place to protect the rights of children who are suspected of experiencing abuse in Denmark. First, any citizen or professional can anonymously notify local authorities when child abuse is known or suspected. For example, teachers can anonymously notify local authorities if a child has disclosed that their parent(s) or caregiver(s) is abusing them. Once local authorities come to learn about or suspect a possible incident of child abuse and the potential need for intervention, a thorough child assessment ("The §50 examination" in the Danish Service Act) can be initiated. The child examination is initiated if it is assumed that a child needs special support. This can relate to child abuse but also other difficulties in the life of the child. The §50 child examination consists of a thorough mapping of all the relevant facets of the child's life including the well-being of the child and characteristics of its home and school environment. The aim of the assessment is to identify potential individual and family difficulties and resources to better support the child's healthy development. If, after this assessment has been completed, the child is found to need special support, the local authority is obliged to initiate the relevant interventions (The Ministry of Social Affairs and Intergration, 2011).

The process of conducting the §50 child examination is assisted by the DCC, who have a mandate to assist the local authorities in part of the assessment in the instances where child abuse (sexual, physical, or emotional) is known or suspected.

2.14.3 Scope of the problem: Child abuse in Denmark

Based on survey and registry data, a national report from 2016 on child abuse prevalence in Denmark suggested that approximately one in six Danish children (17%) had been subjected to physical violence in the home (being pushed, shaken, pulled by the hair, beaten with a fist, flat hand or an item, or being kicked by one or both parents) at least once during the past year (Oldrup et al., 2016). The report also indicated that 4% of the children had witnessed violence against a caregiver. Furthermore, 12% had been exposed to unwanted sexual episodes including indecent exposure or groping, respectively, by peers, adults, or family members. In addition, 0.6% of the children had been exposed to sexual abuse, defined as attempted or completed penetrative acts committed by an adult family member or other adult(s) during their lifetime (Oldrup et al., 2016). Furthermore, the report found that 8% had been exposed to psychological violence such as demeaning and dismissive reactions from the parents including threats of physical violence or episodes where the child repetitively had been called stupid or ugly by one or both parents during the past year (Oldrup et al., 2016). At the time, previous research among Danish adolescents (aged 15-16) had reported that approximately 2.5% (males) and 5.5% (females) had been exposed to types of physical violence such as being punched or shaken by a parent during the past year, and that approximately 1.5% (males) and 2.5% (females) had suffered severe violence by parents such as being kicked or hit with a fist (Helweg-Larsen, Schutt, & Larsen, 2009). This prior study further suggested that 4% males and

17% females had experienced unwanted sexual events such as oral sex, attempted penetrative acts (vaginal/anal) with peers or adults.

2.14.4 The DCC: a cross-sectoral response to child abuse

The DCC were established in 2013 as part of the Danish legal reform 'The Assault Package' 2013-2016 ('Overgrebspakken'), and in the aftermath of a series of severe cases of child abuse in Denmark (Søbjerg, 2017). A critical review of these cases by the National Board of Appeals ('Ankestyrelsen') found that these cases were characterised by lack of overall case overview and an absent or insufficient cooperation between the social, legal, and health-care sector involved in the cases (Ankestyrelsen, 2012).

The overall aim of the legislative reform was to generate a society where fewer children are exposed to violence and abuse with an emphasis on early detection and intervention of child mistreatment, preventive and interdisciplinary efforts, and strengthening of cross-sectoral cooperation. Since October 2013, it is mandatory for the Danish local municipalities to use a children centre in cases of known or suspected child abuse (sexual, physical, and, from medio 2019, emotional) if the following conditions are satisfied: 1) the child is 0-17 years of age; 2) the local municipality of the child has decided to conduct (or add to) a child assessment (§50 examination), and; 3) at least one more additional sector, the police or the medical sector, is involved in the case.

The key tasks of the DCC are to support and coordinate a cross-sectoral effort in cases of suspected or known child abuse through cohesive and coordinated case procedures, with a specific focus on the perspective and needs of the child (Spitz & Bird, 2017). The DCC thus provide a framework for professionals in cases of child abuse across sectors to meet, coordinate their efforts, and share relevant case information. The DCC also carries out an assessment of the child which, as mentioned, contributes to the overall

§50 child examination conducted by the local municipality. The assessment part conducted by the DCC focuses on the potentially traumatic event(s) and their associated reactions. The outcome of the assessment includes a set of recommendations, including specific treatment or intervention needs in the interest of the child's safety and well-being. The DCC also provide guidance to local municipality social workers in cases of suspected child abuse. These consultations can, for example, concern how professionals can to talk to children about abuse and/or if a specific issue of concern is part of the DCC's area of work.

2.14.5 Nordic approaches to child abuse – The Barnahus Model

The DCC are part of a large-scale, Nordic effort to provide a child-friendly and multi-professional approach to child abuse. As consequence of public and political demands for improved strategies for handling child abuse (Johansson, Stefansen, Bakketeig, & Kaldal, 2017), and in an effort to better cater to those children disproportionately bearing the burden of child maltreatment, the Nordic countries have introduced new institutional child-centred responses to child mistreatment in recent decades. Iceland was the first Nordic country to initiate a 'house for children' or 'Barnahus' in 1998, inspired by the existing U.S. Child Advocacy Centre Model (CAC) established in Huntsville, Alabama in 1985 (Faller, 2009). Despite noted differences between the models, including the role of the state and institutional affiliation, both models centre on the idea that child sexual abuse is a multifaceted phenomenon that cannot be addressed within a mono-sectoral framework, and requiring multiple sectoral responses and cross-disciplinary collaboration (Johansson et al., 2017). Since then, Barnahus-inspired models have been established across other Nordic countries including Sweden (2006), Norway (2007), and

Finland (pilot project 2014)[2]. Here again, while different national adaptations exist with varying foci on different types of child abuse, all adopt a child-centred and multi-professional approach, characterised by interagency collaboration and operating a 'one door principle', where different professions (i.e. lawyers, social workers, police officers, psychologists, and medical examiners) meet the child in one child-friendly institutional setting, instead of the child reporting the same story repeatedly in different sectoral settings, thereby reducing the risk of secondary traumatisation (Johansson et al., 2017). By involving various disciplines and coordinating a cross-sectoral response to child abuse, such institutions strive to reduce the existence of compartmentalisation and disciplinary siloes, characteristic of most social service institutions (Hamby & Grych, 2013; Lätsch et al., 2017).

2.14.6 DCC case characteristics 2013-2018

Since its establishment in 2013, a total of 6,642 children centre case assessments have been completed across the five regional DCC. These numbers stem from the yearly statistics report conducted by the Danish National Board for Social Services in Denmark (DNBSS). The centres have experienced a continual yearly increase in cases since 2014, when DCC records first began, (see Figure 2.2) and from 2014-2018 the number of completed cases increased by 87% (from 882 cases in 2014 to1,645 cases in 2018). While it is not possible to determine why there was an observed increase from 2014-2017 on the basis of the data material provided by the DNBSS, this observation could be due to municipalities becoming better at tracing and identifying children exposed to abuse, due to an increased in awareness of the local municipalities with regard to the DCC and their

[2] Children centres/Barnahus models have also been established at The Aaland Islands (2007), in Greenland (2011), and at The Faroe Islands (2014) (Johansson et al., 2017).

services, other factors, or some combination of these aspects (Socialstyrelsen, 2018a). The number of completed cases decreased by 2% from 2017-2018, for the first time in the history of the DCC. No explanation is currently offered for this observed minor decrease. In addition to the DCC assessment cases, the centres have also completed a total of 8,457 consultative cases from 2014-2018.

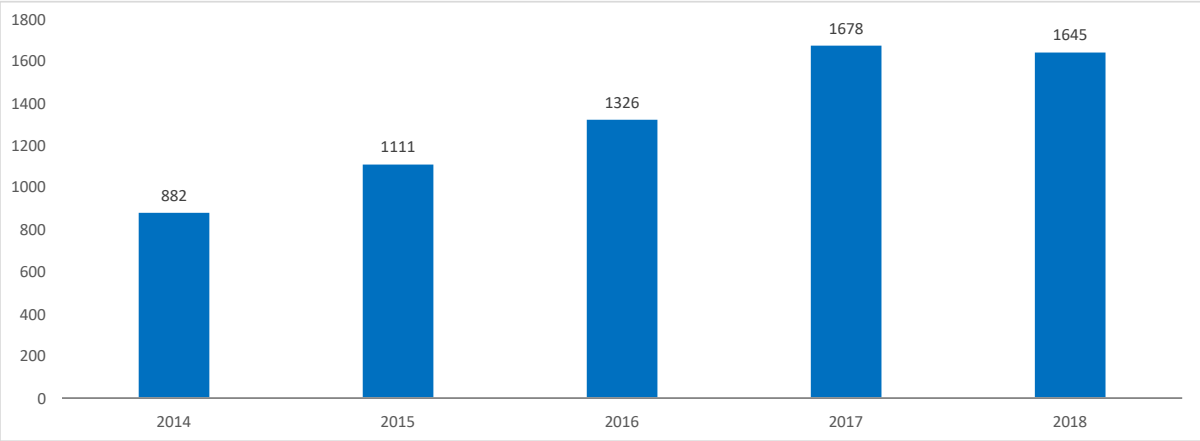


Figure 2.2. Number of completed children centre cases pr. year, 2014-2018 (National level) (Socialstyrelsen, 2019a)

The total number of completed cases in 2018 (N = 1,645) included 46% male and 54% female children aged 0-17 years. The majority of completed cases in 2018 concerned physical violence (72%), followed by sexual victimisation (23%), and a combination of sexual and physical victimisation (5%) (see Figure 2.3). This means that a minimum of 80 individual DCC assessment cases in 2018 was characterised by suspicion of at least two different types of child maltreatment.

Figures also suggest a sex difference in relation to type of abuse. Most male children assessed in the centres in 2018 were referred on the basis of suspected physical violence (88%), followed by sexual victimisation (9%), and the two types combined (3%). On the other hand, 59% of the female cases concerned suspected physical violence,

35% covered suspected sexual victimisation, and 6% of the female cases concerned suspicion of both types of child maltreatment.

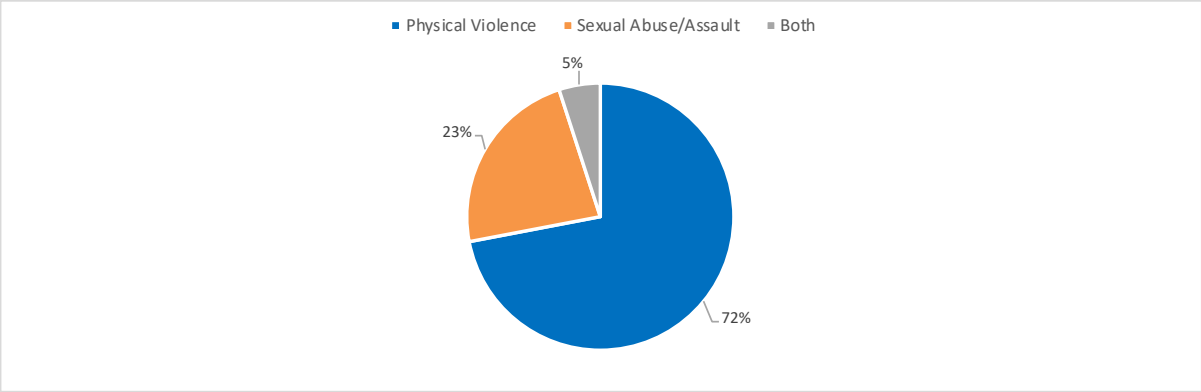


Figure 2.3. Type of abuse, national level 2018 (*n*=1,601) (Socialstyrelsen, 2019a)

Since extant research suggests that children exposed to one type of abuse are likely to have experienced additional types of abuse or adversities, the multiplicity issue of childhood harms is a highly relevant but yet unexplored research theme within Nordic models of care.

To date, the DCC have primarily focused on a set of distinct types of abuse types: sexual, physical and emotional victimisation, all considered criminal acts in Danish society. Exposure co-occurrence is, however, likely to extend beyond the categories of physical, sexual, and emotional victimisation to also include additional forms of adversities and harms, such as household alcohol or drug abuse, witnessing violence or other forms of environmental stressors in the home. It is therefore also likely that the symptoms and reactions displayed by the child, which is the focus in the DCC assessment, are linked to a broader picture of exposure events. Furthermore, the literature on the multiplicity issue of childhood harms and associated mental health is still sparse within the Nordic countries. The theme has recently been investigated within child and adult samples from Denmark, Greenland, Norway, Finland, and Sweden (Aho et al., 2016a;

Ellonen & Salmi, 2011; Karsberg et al., 2014; Lasgaard et al., 2018; Mossige & Huang, 2017). These studies, however, all concern normative samples and are primarily dominated by a sum-score-oriented approach to the study of polyvictimisation, with only two studies applying person-centred statistical techniques to explore the issue of victimisation co-occurrence (Karsberg et al., 2014; Lasgaard et al., 2018). Furthermore, these studies, like most of the general co-occurrence literature, do not investigate the multiplicity issue of childhood harms through sex-specific lenses, despite of evidence suggesting that differences in terms of traumatic exposures exist across both sexes as described in Chapter 1.

2.15 Gaps in the literature

The current outline of the literature reveals a series of research gaps in relation to the multiplicity issue of childhood harms:

(1) Though a wide body of research and various theoretical and conceptual frameworks have addressed and described the adverse health outcomes associated with exposure to multiple childhood harms, there are a number of limitations to this body of literature. Namely, existing evidence has either focused on certain economical settings, excluded high-risk child populations, focused on specific age groups (e.g. young children) or investigated health outcomes measured in adulthood, with limited potential to inform broadly about the early-age adverse mental health outcomes associated with victimisation co-occurrence throughout childhood. Consequently, there is a dearth of evidence exploring the psychopathological outcomes of children (0-17) who have experienced multiple victimisation globally across different economical strata and under different conditions, including normative and high-risk samples. To address this research gap, Chapter 4 presents a global systematic literature review investigating psychopathology outcomes associated with multiple interpersonal victimisation exposure across both

normative and high-risk child samples. This comprehensive global review contributes to our growing understanding of how exposure to multiple harms affect children characterised by different life and upbringing conditions around the world, such that we can better tailor intervention and treatment to the needs of multiply-victimised children.

(2) The literature further suggests that despite a recognised need to focus on the multiplicity issue of childhood harms, there is a dearth of research applying person-centred approaches to childhood victimisation co-occurrence. Particularly, studies investigating the multiplicity aspect within high-risk and clinical child samples in the Nordic context, considering various aspects of the children's ecologies and the relational aspects of victimisation exposures, are needed. Furthermore, there remains a need to linking these profiles of victimisation co-occurrence to child background characteristics and adverse mental health outcomes. These person-oriented investigations of how different types of victimisation cluster and co-occur within vulnerable child populations are necessary in order to fully map the burden of stressors that high-risk children are likely to experience and to understand how these constellations of harms differentially affect child mental health. This knowledge can contribute towards the advancement of theories of childhood multiple victimisation and inform treatment or intervention planning for affected individuals, each with their own therapeutic needs. To address this research gap, Chapter 5 presents the results of an sex-specific LCA of victimisation co-occurrence, associated child background characteristics, abuse- related factors, and indicators of child psychopathology in a large high-risk child sample of children assessed in the DCC.

(3) Though the multiplicity issue of childhood harms has been addressed in a growing number of studies over the last decades, there is a dearth of research investigating the practical and clinical implications of the multiplicity issue within organisations working

with child abuse cases. Literature addressing the victimisation co-occurrence issue within the Nordic Barnahus context is still sparse. This is problematic since children assessed in these settings are at particular high-risk for multiple exposure to childhood harms. A focus on the 'presenting problem' (Hamby & Grych, 2013) or the referral reason alone (e.g. a specific type of child abuse) within these models of care fails to capture and consequently address the true exposure burdens of the children assessed in these institutions. Extant research has repeatedly argued that knowledge of victimisation profiles and particularly person-oriented approaches to victimisation co-occurrence are highly applicable and useful for clinicians working with child abuse (Swartout & Swartout, 2012). However, there is a dearth of research more concretely showing *how* findings on victimisation co-occurrence can be adapted by practitioners and applied to their clinical work and *how* empirically derived knowledge on the multiplicity issue of childhood harms can be used to improve practice and policy in the field of child abuse. Chapter 6 therefore presents the result of a qualitative study using participatory methods with DCC employees to explore the relevancy and applicability of findings on victimisation co-occurrence within the DCC context.

Chapter 3: Methodology

3.1 Chapter overview

This chapter outlines the general design of the study and introduces pragmatism as the philosophical approach underpinning the study in which both quantitative and qualitative methods are used to answer the different sets of research questions. Furthermore, implementation research and participatory action research are presented as a methodological approach taken to bridge research and practice. Finally, the chapter describes the collaborative nature of the study and introduces the different study procedures and ethical considerations.

3.2 General design of the study

This study employed a multi-method approach including systematic review methodology, quantitative analysis of secondary data, and qualitative participatory techniques to answer the different sets of research questions. The study employed a sequential dynamic research design (Leech & Onwuegbuzie, 2009) (Figure 3.1) where the different study components were carried out in separate but connected phases.

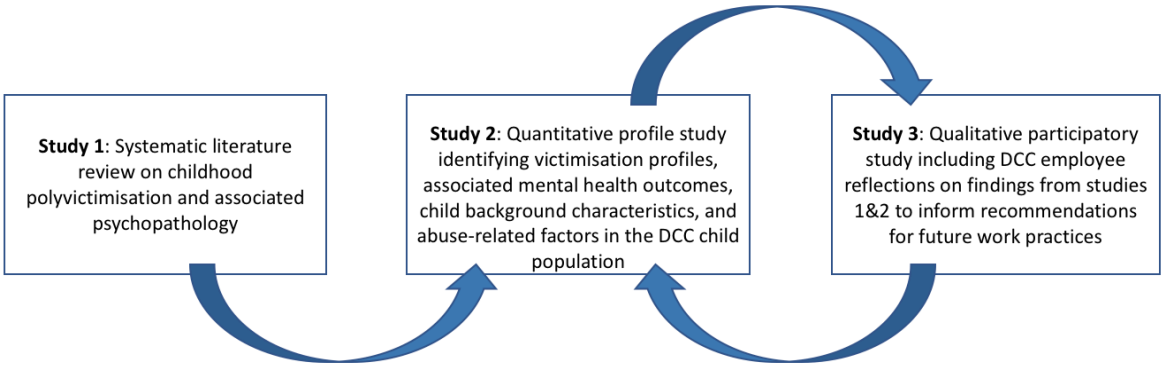


Figure 3.1. The three-phase sequential and dynamic research design

The first study component was a systematic literature review (Chapter 4) investigating the associations between childhood polyvictimisation and child psychopathology. Results were subsequently used to inform and guide the selection of outcome variables in Chapter 5, which was a quantitative study of victimisation profiles and associated child background characteristics, abuse-related factors, and adverse mental health outcomes among children assessed in the DCC. The findings from this study were directly applied in Chapter 6, a qualitative study in which findings were presented to the employees of the DCC and were used to inform the qualitative participatory research approaches. Insights generated from the study presented in Chapter 6 were subsequently used to refine the analysis of Chapter 5. The specific methods used in each phase of the study are described in their respective chapters (Chapters 4, 5, and 6).

As presented in the introduction, the current project is a part of the research programme CONTEXT. The different partner organisations in CONTEXT, including the DCC, were involved in the preliminary process of designing the 12 projects by providing research to practice gaps in their respective organisational contexts. During the project, I was based with Trinity College Dublin (TCD) for the first year (2017) and was affiliated with TCD throughout the project period. From 2018-2020 (February) I was seconded to Denmark and was based within one of the DCC, The Danish Children Centre for the Capital Region (CCCR).

As described in Chapter 1, the current project has three objectives. The research questions linked to these objectives were formulated based on gaps in the current scientific literature, and also addressed organisational knowledge gaps in the DCC which means that real-word needs rather than philosophical and metaphysical considerations were the central starting points of knowledge production.

3.3 Philosophical and theoretical foundations

The current study adopts a pragmatic approach as its core research philosophy, applying a range of different methods to answer the different sets of research questions. Qualitative and quantitative methodologies have been stated to represent incommensurable research traditions with conflicting epistemologies regarding the nature of reality and the creation of knowledge (O'Cathain, 2010; Sale, Lohfeld, & Brazil, 2002). The qualitative research tradition spans various positions such as constructivism, critical theory, and interpretivism just as quantitative research as an overall term covers different strands such as positivism, post-positivism, and realism (Morgan, 2007). Generally, qualitative research has been designated inductive, subjective, and contextual whereas quantitative research has been characterised as a deductive, objective, and generalising (Ash & Guappone, 2007). Given these assumptions, the concurrent use of methods representing radically different paradigms in the study could therefore be perceived as problematic from an overall science theory perspective. The fundamental incompatibility between qualitative and quantitative methods has, however, been questioned by an alternative research paradigm: Pragmatism.

3.3.1 Pragmatism

The origins of pragmatism are commonly traced back to the work by Dewey (1925). Overall, a pragmatic research approach rejects the idea of incommensurability of qualitative and quantitative methods since the aspect of method incompatibility is perceived as an *a priori* reasoning disconnected from actual practice (Onwuegbuzie, Johnson, & Collins, 2009). A pragmatic research approach endorses a strong practical empiricism (Johnson & Onwuegbuzie, 2004; Onwuegbuzie et al., 2009) and the position is centred on the practical and technical aspects of research rather than taking the starting

point of metaphysical issues (Morgan, 2007). A pragmatic-oriented approach rejects the existence of any *a priori* foundation for discarding the combination of, or communication between, different research traditions and gives less influence to underlying philosophical assumptions for the employment of different research methods (Brierley, 2017). Pragmatism as a research approach recognises the existence and importance of both the objective natural and physical world as well as the social world of human institutions and subjective thoughts (Johnson & Onwuegbuzie, 2004). In this study, this implies that the concept of polyvictimisation can be approached and understood in different ways, as both a stable research phenomenon that can be measured but also as a concept which in practice may be ascribed multiple meanings across different settings.

From a pragmatic standpoint, qualitative and quantitative methods represent a continuum rather than a rigid dichotomy. In practice, research actions are often performed in a processual and dialectic manner with a constant interplay of methods and a movement back and forth between theory/practice and induction/deduction (Brierley, 2017; Morgan, 2007). Onwuegbuzie et al. (2009) and Frederiksen (2014), for example, exemplify how a post-positivist-oriented researcher in practice uses qualitative explorative techniques to develop quantitative instruments just as a qualitative-oriented researcher in practice applies quantitative procedures of generalisation to summarise tendencies in a qualitative data material. A pragmatic research standpoint places its essential emphasis on the possibility of communication, shared meaning, joint action and inter-subjectivity in the encounter of different research approaches (Morgan, 2007).

A pragmatic approach further emphasises the specific research procedure itself and perceives the research problem and the research questions as the core issues. Hence, research methods are identified and applied based on their practical and mechanical capability to meet the research purpose and answer the research questions of a given

study. In other words, the pragmatic approach operates around a 'logic of feasibility and practicability' where methods are applied in terms of their capacity to produce essential knowledge (Hesse-Biber, 2015). This does not imply however, that a pragmatic approach is a cover for a logic of 'anything goes' but rather that methods should be carefully selected based on how appropriate and practical they are in terms of answering the specific research question(s) (Brierley, 2017). Pragmatism has been outlined as an optimal philosophical partner and framework for designing and conducting mixed-method and multi-method research (Brierley, 2017); that is the joint use and communication between multiple different methods within the same study.

3.4 Multi-method and mixed method research

In line with pragmatism, this study assumes that qualitative and quantitative methods can co-exist and communicate within the same study. Also aligned with pragmatism, the research questions are the starting point of knowledge production and the different methods are chosen based on their relevance and appropriateness for answering the research questions. The act of combining different methods within the same study is referred to as multi-method or mixed methods research (MMR). Across the literature, these terms have been perceived as synonyms but also as distinctive approaches (Anguera, Blanco-Villaseñor, Losada, Sánchez-Algarra, & Onwuegbuzie, 2018). While multi-method research has been defined as an approach involving and combining any different method (Morse, 2003), mixed method research has been defined as research specifically combining qualitative and quantitative methods with the incorporation of multiple approaches in all stages of the study (Byrne & Humble, 2007). Morse and Byrne and Humble, respectively, further describe the multi-method approach as a methodology that implicates qualitative and quantitative components that are addressing different parts,

phases, and sub-questions of the research but where the results are triangulated at some point to form a whole (Byrne & Humble, 2007; Morse, 2003).

The current study has different and relatively independent study parts that each address different subsets of research questions. The study, however, also includes an element of embeddedness which is a key feature of mixed method research (Creswell, 2011) as the different study components are a part of an overall sequential and dynamic research design, where the different elements are used to inform and guide each other in a dynamic fashion just as findings are synthesised in the discussion parts. Research that mixes or combines different methods has been designated particularly appropriate for applied and collaborative research, such as the current research, that addresses research questions and knowledge gaps deriving from both academia and practice as these are often complex in nature and consequently call for different approaches (Byrne & Humble, 2007). A key feature of this study is the collaborative nature of the project and the involvement of the practical context, the DCC, and 'local perspectives and priorities' (Cornwall & Jewkes, 1995) in the study procedure.

3.5 Study strategy of inquiry: Implementation research and participatory action research

The involvement of various stakeholders and contextually relevant actors in the research process is a key part of what is referred to in the research literature as implementation research (IR). IR centres on the need to develop strategies that foster the uptake of evidence-based practices into clinical practice (Bauer, Damschroder, Hagedorn, Smith, & Kilbourne, 2015). In line with the pragmatic approach, IR stresses the importance of the contextual aspects of research, a need for adaptation of knowledge to local contexts, and, more specifically, to understand why interventions and innovations are effectively implemented in some settings but not in others (Kirk et al., 2016). This implies that the

relevant stakeholders should be involved in the different phases of the research, from the research design, to conducting the research, to the final interpretation and dissemination of findings. This continuous engagement is important to ensure that interventions or the implementation of knowledge reflects the understandings and needs of the real-life practical setting (Peters, Adam, Alonge, Agyepong, & Tran, 2013; Theobald et al., 2018).

The IR term is often used in relation to implementation of health interventions, with a focus on how different factors can impact the process of implementation and the uptake of practical solutions into health systems (Peters et al., 2013). The principles of IR therefore serve as a useful framework for the current study process, as it seeks to bridge the academic and practical sectors. More specifically, this study draws on the IR principles of co-design and co-production of knowledge and data (Bergold & Thomas, 2012; Breitbart, 2010; Slocum & Steyaert, 2003) as well as a focus on the uptake of research findings into practice. That is to say, how knowledge on polyvictimisation (the knowledge gap initially identified by the DCC) can be used and applied by the DCC practitioners working with cases of child abuse in the future.

One strand of IR is participatory action research (PAR), which emphasises the aspects of participation and action with a focus on increasing mutual learning through sharing of information, perspectives, and data across the different actors involved in the research process. Participatory approaches centre on the involvement of various stakeholders in decision making processes (Slocum & Steyaert, 2003) with the aim to create practicable actions and feasible strategies that address the perspectives and needs of those affected by the research (i.e., the 'end-users') (Bergold & Thomas, 2012; Breitbart, 2010; Cornwall & Jewkes, 1995; Peters et al., 2013). The acts of participation are deemed necessary since inappropriate recommendations or solutions are likely to

occur when local priorities or contextual perspectives have not been accounted for in the research process (Breitbart, 2010; Cornwall & Jewkes, 1995).

3.5.1 Involvement of the DCC stakeholders in the research process

Drawing on principles from IR and PAR, I involved various stakeholders at several stages throughout the research process to ensure that the practical and contextual perspectives were reflected in the final results and research outputs.

3.5.1.1 Engagement of DCC employees and managers

Employees - psychologists and social workers – as well as managers/heads of the DCC were involved in different phases of the research project. In November 2018, I presented the study research design at a national DCC conference and presented results from an on-going study on ACEs, polyvictimisation, and associated mental health status among adults in the U.S. (Haahr-Pedersen et al., 2020) in order to introduce and exemplify the concept of polyvictimisation to the DCC personnel. As a part of the conference, employees were engaged in participatory reflection exercises related to the ACEs and polyvictimisation. For example, employees reflected upon which type of ACEs they observe in their clinical work and how they become aware of these.

Later in the research process, from September to December 2019, I visited the five regional DCC (including some of the regional satellites) and conducted six participatory workshops with the employees and centre management staff. With reference to the IR and PAR terminologies, the engagement of employees was particularly important since they ultimately represent the 'end-users' who will be affected by the final recommendations for future work processes. As the DCC employees are carrying out the data registration on child cases in the centres, they also represent the practical, local, and contextual perspectives and understandings with regards to the data. The involvement of

the employees in the research process further facilitated a co-interpretation of the final quantitative results.

3.5.1.2 Engagement of DCC collaborators

The management levels from the different sectors collaborating with the CCCR were also involved in the project process to engage the diverse sectoral landscape of the DCC in the project. In 2018 and 2019, I presented the research design and introduced the quantitative methodology (i.e., victimisation profile study methodology) at two management meetings with a specific focus on visual and accessible presentation of the profile analysis technique, while also presenting relevant existing studies on polyvictimisation in order to allow the managers to familiarise themselves with the method and the research theme. As a part of the meetings, the participants were also engaged in cross-sectoral reflection exercises on practical experiences with polyvictimisation cases in order to touch base with the different sectoral experiences with complex cases of child abuse.

As a part of the study design phase I also engaged in 12 exploratory 'discussion sessions' or exploratory interviews with different sectoral representatives working in or collaborating with the CCCR including police, medical personnel, children centre social workers and psychologists, and municipality social workers in order to generate a fundamental understanding of the organisational context. Different themes were discussed in the sessions including work procedures, different sectoral tasks, cross-sectoral collaboration, professional roles and sectoral responsibilities, and different professional understandings of the polyvictimisation concept. These discussions align with the principles of the importance of context articulated in pragmatism and IR and the discussions also served as a guidance for the later analysis. As an example, a children centre employee expressed how in many cases, physical violence is just 'the tip of the iceberg' as the children encountered in the centres also experience other adversities in the

home and in their lives. Insights like these – in tandem with the research literature - guided the definition of a multiple exposure construct within the DCC (see Section 3.6). The discussion sessions also revealed that the concept of polyvictimisation was understood differently across sectors and were not always aligning with the conceptualisations presented in the research literature. Whereas various theoretical frameworks on polyvictimisation or related construct emphasise the *spectrum* component of victimisation exposure (as described in Chapter 2, Section 2.6), the exploratory discussion sessions revealed that in some sectors the polyvictimisation concept is understood differently and in terms of a severity-oriented logic (for example severe types of violence exposures vs. less severe types of violence exposure). These practical understandings generated important insights that further underlined the need to consider both quantitative and qualitative differences in victimisation exposures when investigating the multiplicity issue of childhood harms which is also supported by extant literature (Contractor et al., 2018).

3.5.1.3 Engagement of the political level

Finally, the DNBSS - the political level - was also engaged in the study process as they represent an important stakeholder in terms of being the controller of the national children centres database and is the link to the political department monitoring the DCC. Any future changes in the database structure such as an increased focus on polyvictimisation in the DCC data, requires action and authorisation from the board. The preliminary findings of Chapter 5 were presented to the board in September 2019 and the specialised employee team were engaged in discussions of the results. Figure 3.2 shows illustrates the continuous stakeholder engagement and dissemination activities thought the project period.

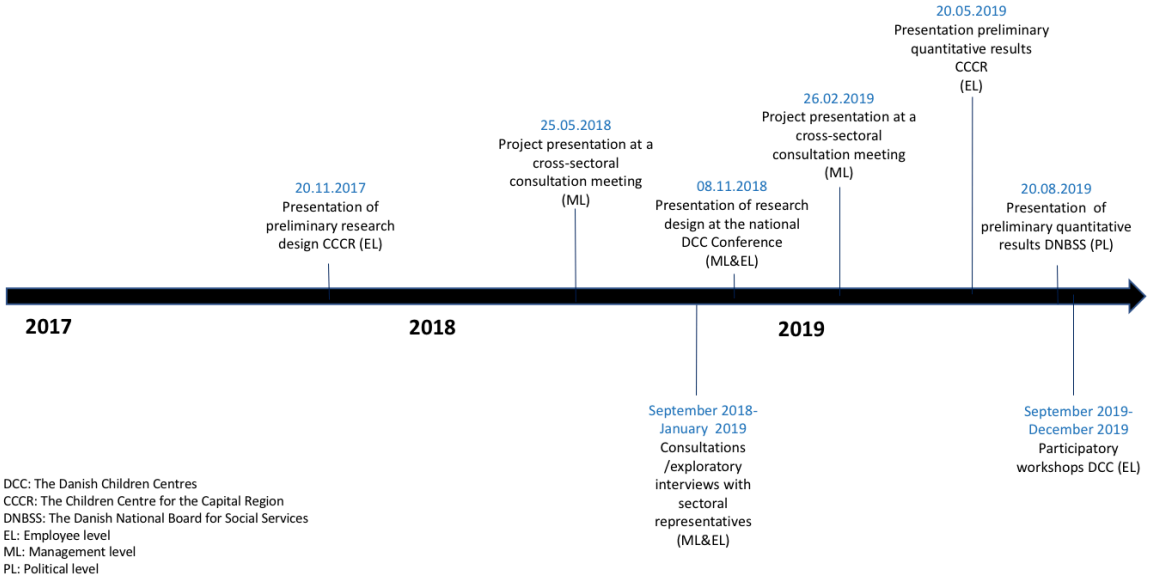


Figure 3.2. Overview of stakeholder engagement and continuous dissemination activities

In all sessions where I engaged the stakeholders, I focused on presenting the methodology, including the quantitative profile technique, in a visual and accessible way with the purpose of translating the method into a clinically meaningful procedure (see Figure 3.3) and to help the professionals to familiarise themselves with the technique. The aim was to communicate the usefulness of the method in an applied context since advanced statistical techniques, when not presented in clear way with a focus on applicability, may be difficult for practitioners to immediately interpret and apply in practice settings (Debowska et al., 2017).

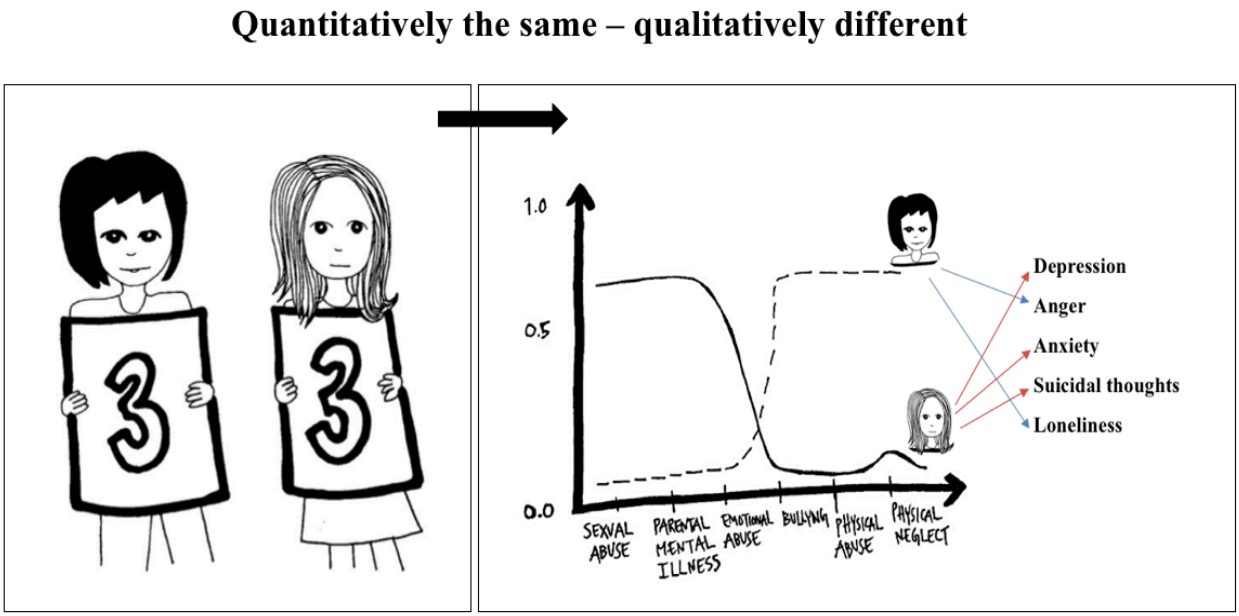


Figure 3.3. Visualisation of quantitative profile technique used for stakeholder dissemination

3.6 Defining a multiple exposure construct within the DCC context

Chapter 2 demonstrated the various terminologies and conceptualisations available within the literature for the study of childhood ill-treatment and the multiplicity issue of childhood harms. In terms of defining a construct to capture the issue of multiple childhood harms within the DCC context, the current study draws on the broad definition of polyvictimisation proposed by Finklehor et al. as the experience of multiple types of victimisations of different kinds (Finkelhor et al., 2011a), but adapted to include a more comprehensive conceptualisation of interpersonal victimisation, as presented in the MCA scheme, such that it includes various types of stressors taking place in or affecting the immediate environment of the child (e.g. both child sexual abuse and parental mental illness). The current study thus applies the conceptualisation of interpersonal victimisation presented by Grasso et al. (2013a) within the MCA scheme. The MCA scheme was chosen as it addresses the various ecological levels, including the

combination of child abuse and broader environmental stressors such as household adversities, and impaired caregiving, all of which are shown to be important predictors of adverse mental health outcomes. This broader definition of interpersonal victimisation was chosen as it aligns with existing evidence suggesting that: (1) Both familial and environmental factors should be integrated into investigations of patterns of abuse (McAnee et al., 2019) as some family and environmental circumstances, such as parental mental illness or limited economic resources constellations are likely to co-occur with exposure to violence and abuse (Belsky, 1980; Schmid, Petermann, & Fegert, 2013). Multiply-victimised children are therefore not only at risk for additional severe traumatic stressors but also for a large number of other adverse life experiences with the potential to negatively impact mental health (Grasso et al., 2013a); (2) Research has further found that issues such as poverty or low socioeconomic status, and adult mental illness, often considered as risk factors for child abuse, independently predict adverse mental health (Brown et al., 2019; Finkelhor, Shattuck, Turner, & Hamby, 2013; Metzler, Merrick, Klevens, Ports, & Ford, 2017). This evidences a need to integrate adversities and abuse types to capture the ecological or environmental context of the child and for the study of abuse within a socially-disadvantaged framework to also include structural and social factors (Nurius, Logan-Greene, & Green, 2012); (3) *combinations* of harms within the ecology of the child such as child abuse, family violence, community violence, and impaired caregivers may constitute a particularly detrimental effect because they represents stressors at various levels in the environment and life of the child (D'Andrea et al., 2012; Scheeringa, Zeanah, Myers, & Putnam, 2005; Spinazzola et al., 2018).

In addition, no *a priori* numerical threshold is used to define polyvictimisation status. Instead constellations of victimisation co-occurrence are examined empirically by means of person-centred statistical techniques to investigate the ways in which numerous

stressors co-occur and are configured within individuals (Debowska et al., 2017; Hodgdon et al., 2018).

3.7 Study procedures

3.7.1 Systematic literature review

The first objective of the study was to identify the adverse psychological outcomes associated with polyvictimisation among children and youth ages (0-17 years) in the global research literature and was addressed using systematic literature review approaches. The design of the systematic literature and the literature search was conducted in collaboration with a subject librarian from the library at TCD. The first preliminary search was conducted in December 2017 and the search was updated in July 2019 to include new publications. The findings from this chapter were used to inform the quantitative study (Chapter 5) in relation to the selection of relevant outcome variables. The method and procedures for this study component are described in greater detail at the beginning of Chapter 4.

3.7.2 Quantitative study

The second objective of the study was to identify distinct sex-specific profiles of victimisation co-occurrence in a clinical child and youth sample (ages 0-17), while also examining the child background characteristics, abuse-related factors, and adverse psychological outcomes associated with different exposure configurations, and is addressed using quantitative approaches using secondary data. The data is collected by the five regional DCC to ensure continuous national documentation and monitoring of the DCC work. The data is entered in the DCC IT system, Børnehus IT (BIT), and the BIT database is controlled by the DNBSS. In recent years, it has been possible to apply

for data access to the BIT database for research purposes via a standardised data application form. The DNBSS then grants access to the BIT data if the application meets certain requirements. The data application form entails a range of required information such as the title of the study, the study purpose and aims, the societal significance of the study, the notification number for The Danish Data Protection Agency (DDPA), the list of required variables to conduct the study and a specified justification for the entire list of requested variables, information about data storage, a description of the persons with access to the data, and a data dissemination plan.

The national BIT-data material is generated on the basis of assessment of children in the DCC due to suspected or known child physical or sexual abuse (and from April 2019 emotional abuse). Following the assessment, a list of case information is registered for every child. The registration of information is carried out by either an administrative employee, the social worker or the psychologist handling the specific case and can be based on multiple sources: the assessment sessions with the child, sessions with parents, information from cross-sectoral case meetings in the children centres, and municipality case files given to the children centre as a part of the assessment procedure. A data registration manual with definitions and operationalisations of the data categories has been provided by the DNBSS to ensure standardisation of the data. The BIT data material was transferred to the CCCR in January 2019 via an encrypted email system. The data included finalised and registered assessment cases from January 2014 to December 2018. Due to changes implemented in the BIT database (removal and update of key variables) in the beginning of 2016, only cases from June 2016 onwards were included in the quantitative analysis to ensure uniformity of the data. Following the data transfer, frequency tables were run across all relevant variables to assess the amount of missing and incomplete data and the data was cleaned and recoded from text to number variables.

The preliminary dataset comprising DCC cases from June 2016 to December 2018 included 3,134 cases. Cases with 'unknown' status on key victimisation variables which neither denotes a 'Yes' (1) or a 'No' (0) (n = 497) were removed. Cases characterised by 'No' responses across the entire spectrum of binary-coded household adversity items were also considered potential non-response cases or missing data (n = 690) and were also excluded from the analysis. To assess for the potential effect of this elimination procedure, the quantitative profile analysis was conducted and tested for both the sample with potential missing data (n = 2,637) and the sample without these cases (n = 2,198). The analysis produced nearly equivalent results. Ultimately, the more conservative analytical strategy was chosen, and the final sample included 2,198 cases. The relatively large amount of cases characterised by non-response on household adversity victimisation items was, however, expected since the primary focus of the DCC are incidents of child physical, sexual, and emotional abuse. More detail on the research methods for this study part is provided in Chapter 5.

3.7.3 Qualitative study

The third objective, to explore how the analytical findings on polyvictimisation obtained from research objectives 1 and 2 can inform the interdisciplinary work processes of the DCC and strengthen screening procedures and interdisciplinary work processes in relation to complex cases of child abuse, was addressed through qualitative approaches. The qualitative study was carried out in the form of six participatory workshops conducted with the different regional DCC and other regional "satellites" between September 2019 and December 2019. A more detailed presentation of the study design and workshop content is presented in Chapter 6. The workshops were arranged in collaboration with the managers of the five DCC centres to ensure a high level of employee participation. Employee reflections on the quantitative data derived in the

participatory workshops were essential given that the employees collected the quantitative data and were thus able to contextualise the findings. Since a relatively large amount of cases were taken of the BIT data material, the presentation of the data to the employees was also deemed particularly important in order to check if the results corresponded to their clinical experiences and impressions.

3.8 Ethical considerations

Since this study focused on potentially traumatic exposures and mental health status among a particularly vulnerable population – children - and due to the cross-national organisation of the research project, several ethical considerations and data access arrangements were contemplated in the study process. Figure 3.4 demonstrates the various institutions that were consulted in the process of obtaining ethical approval of the study, data access, and data processing authorisation.

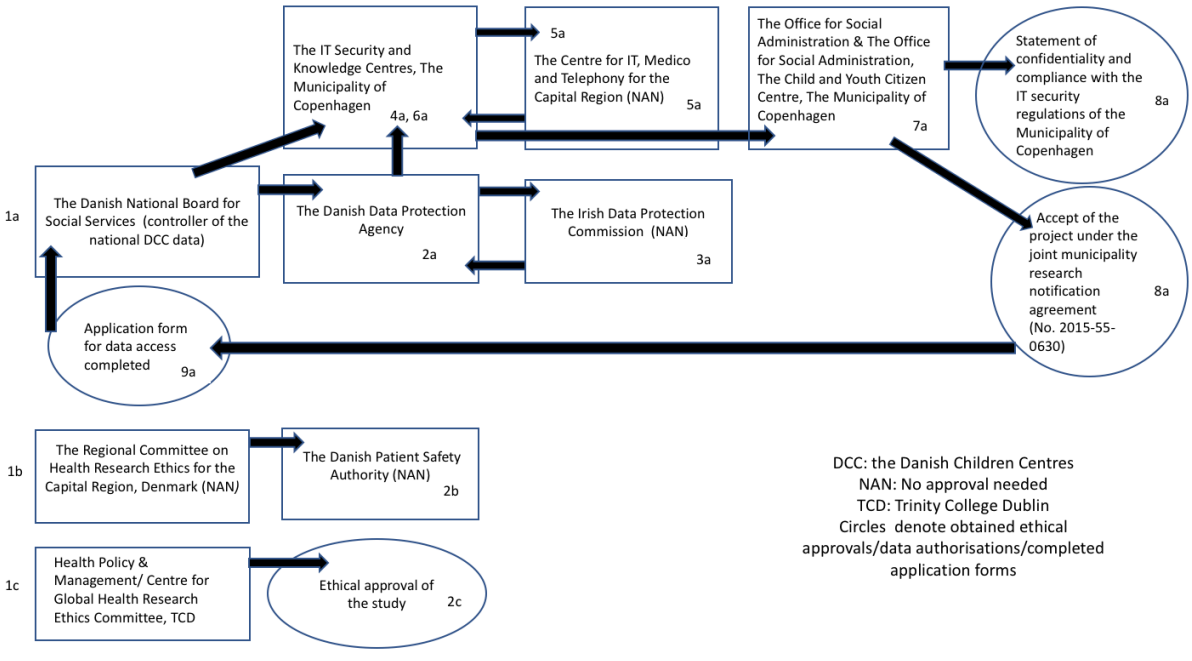


Figure 3.4. The process of obtaining ethical approval, data processing authorisation, and data access

Research ethical approval was obtained from the Health Policy & Management/Centre for Global Health Research Ethics Committee, TCD, Ireland on April 18th, 2018 (step 1&2c) (Appendix A). In line with the principles of IR, it was discussed in the early phases of the research design process if the experiences of the 'end-users' of the DCC services - children and caregivers - should be included and reflected in the study. Based on consultations with the management of the DCC it was decided not to include children in order to (1) avoid exposing them to additional stress in a vulnerable situation; (2) not interfere with and take time from the small number of assessment sessions available to the children in the centre. A legal advisor from The Global Health Research Ethics Committee at TCD also recommended that caregivers should also not be included in the study due to the risk of incrimination in the interview situation. Consequently, children and caregivers were not included as informants in the study.

The Danish partner university of the project, the University of Southern Denmark, was consulted in relation to ethical approval of the project in Denmark and The Regional Committee on Health Research for the Capital Region in Denmark was subsequently contacted (step 1b). No approval was required from the committee since questionnaires, interview studies, and register data research projects which do not include human biological material but are based on clean data such as letters, numbers, and signs should not be reported for approval (The Committee Act, section 14 (2)). The committee, however, referred the study to The Danish Patient Safety Authority (DPSA) for further study evaluation (step 2b). Since the DCC operate under the Danish Service Act and not the Danish Health Act, an approval from the DPSA was, however, not required.

Finally, in order to access and process the secondary data material controlled by the DNBSS, an approval from the DDPA was required (step 2a). Since I was affiliated with an Irish University, TCD, a Danish approval could initially not be provided by the

Danish agency and the DDPA therefore referred this issue on to The Irish Data Protection Commission (IDPC) (step 3a) and a project description was sent to the IDPC for evaluation. At the same time, the DNBSS specifically stated that an approval from the Danish agency was required and that the secondary data could only be transferred to, processed, and stored in Denmark. Following this statement, various Danish regional and municipality offices were contacted back and forth (steps 4-7) and ultimately the project was accepted under the joint municipality research notification agreement under The Office for Social Affairs in the Municipality of Copenhagen (agreement no. 205-55-0630) (Appendix B). This notification facilitated completion of the data access application to DNBSS. The data access application was sent to the DNBSS on December 11th, 2017. A list of required revisions was sent to the Board in April 2018, June 2018, and August 2018. Due to the implementation of the General Data Protection Regulation (GDPR of 2018) in May 2018, the processing of the application was delayed, and I received the secondary data material in January 2019. A statement of confidentiality and compliance with the IT security regulations of the Municipality of Copenhagen was signed prior to the reception of the data (Appendix C).

3.8.1 Consent

Since the quantitative data were not originally collected specifically for the purpose of the current research project, children and caregivers had not given consent to participate in this study. The DDPA and a legal advisor from The Office for Social Administration, The Child and Youth Citizen Centre at the Municipality of Copenhagen were consulted in regard to questions on participant orientation and information requirements in relation to the data subjects. Given the large sample size (N = 2,198), and with reference to the section on 'Information to be provided where personal data have not been obtained from the data subject' (GDPR of 2018, article 14 (5b)) and the act on 'Additional provisions

for a regulation on the protection of individuals with regard to the processing of personal data and on the free exchange of such information' (The Danish Data Protection Act of 2018, Section 10), data subjects were not contacted to be informed about the present research project. The DNBSS received and accepted this evaluation and the Board presented the current research project and its research aims publicly via its website which also included my contact information.

In terms of the qualitative study component, the participants in the explorative discussions (exploratory phase) and in the participatory workshops (qualitative study, Chapter 6) received information leaflets describing the study, the study aims, and the nature of their involvement in the study through information leaflets and informed consent forms (Appendix D&E). The information leaflets entailed details about the research purpose, the different research components, the discussion or workshops agenda, possible risks and discomforts (i.e. some questions related to childhood victimisation or cross-sectoral work processes could potentially foster discomfort), voluntary participation, the right to discontinue participation without penalty at any time in the research process, as well as my contact details for additional information and contact information for the head of the CCCR. Information leaflets and consent forms were sent to participants seven days before the discussion or the workshop in order to allow for participants to familiarise themselves with the information and the material. Consent forms were collected at the discussion sessions and participatory workshops, where the participants also had the opportunity to ask questions about the forms and the research project. Anonymity was protected through the following measures: in the workshops, participants did not introduce themselves by profession in the group discussions, and transcriptions of discussions were assigned codes or pseudonyms. Any potential identifiers, in terms of specific professional identity or geographical location, were removed.

3.8.2 Data storage

The quantitative data material provided by the DNBSS was stored in the electronic system eDoc, a case and document management system providing personalised access to information controlled by the security setting of the system. The storage of data in eDoc is in accordance with article 5 of the GDPR of 2018 and the principles for processing personal data including that data must be processed in a manner that warrants adequate security of the data and ensures that the data is protected from unauthorised access, illegal processing, and risk of destruction.

The qualitative data was collected using a Dictaphone. Audio files were transferred to the eDoc system. Signed consent forms were stored in a locked cabinet in the CCCR and were later handed over to TCD to be stored for a period of seven years. Worksheets developed as a part of the participatory workshops were typed in a text document that were also uploaded to eDoc and the original sheets were destroyed. The data was treated under GDPR of 2018 and the Danish Data Protection Act of 2018. Data access and transfer of the data from was provided by the DNBSS conditional on the deletion of the data in June 2020.

Chapter 4: Childhood polyvictimisation and associated psychopathology outcomes - A systematic literature review

4.1 Chapter outline

This chapter presents the results of the systematic literature review conducted to answer the first research question: "Which psychopathology outcomes among children and youth ages (0-17 years) are associated with the exposure to multiple interpersonal harms in the research literature worldwide?" and addresses the identified need for a global systematic literature review comprehensively identifying childhood psychopathology outcomes associated with multiple interpersonal victimisation exposures among children ages 0-17 across different economic strata and child life conditions, including normative and high-risk samples. A systematic review approach was chosen as it allows for a global overview of the adverse psychopathological outcomes associated with multiple victimisation in childhood using a comprehensive and structured search strategy. It further allows for an appraisal of the existing literature with the aim to identify, assess, and synthesise findings across relevant studies on a distinct research topic (Uman, 2011).

4.2 Methods

The current study adopts a conceptualisation of interpersonal victimisation, and consequently polyvictimisation, as presented in the MCA scheme, integrating different types of abuse, e.g. physical abuse, and broader indicators of environmental stressors such as parental mental illness and unemployment. Hence, the polyvictimisation construct employed in this study to some degree aligns to the categories applied in the ACE framework, and specifically the more recent ACE literature, by applying a wider range of adversity items. At a first glance, the ACE literature thus appears particularly relevant as a foundation for conducting a systematic review on the outcomes between childhood multiple interpersonal victimisation and adverse mental health outcomes. The ACE

literature does not, however, represent the most ideal foundation of knowledge to base the review on for several reasons: (1) As described, the majority of the ACE literature focuses on adverse health outcomes measured in adulthood with limited potential to broadly inform about adverse mental health consequences in childhood; (2) the ACE framework has been applied across various disciplines, and particularly within medicine, resulting in a substantial amount of the ACE oriented literature focusing on physical health outcomes such as cancer, cardiovascular diseases etc. which is outside the scope of the current study.

For a systematic appraisal of the adverse psychological outcomes associated with multiple victimisation exposure in *childhood*, the literature adapting the PV framework as proposed by Finkelhor et al. therefore represents a more appropriate and relevant approach, since this literature has predominantly estimated the links between multiple types of interpersonal victimisation and short-term indicators of psychopathology measured in childhood. Though the current study adapts a different operationalisation of interpersonal victimisation, and consequently polyvictimisation than Finkelhor et al., the PV framework and the accompanying literature represent the most relevant evidence base for investigating the links between exposure to multiple harms and adverse psychological outcomes in childhood. Consequently, for the systematic exploration of the range and types of adverse mental health variables associated with multiple childhood interpersonal victimisation, the PV framework proposed by Finkelhor and colleagues, and subsequently studies using the JVQ (the dominant tool to assess for polyvictimisation in childhood within the PV framework), was chosen for the systematic literature review.

To ensure consistency and comparability across studies, the current review therefore sought to identify studies that: (1) explicitly investigated exposure to multiple types of victimisations and; (2) used the same validated assessment tool for measuring

childhood victimisation (i.e. the JVQ) among children and adolescents to ensure uniformity across studies in terms of defining acts of victimisations. The JVQ was further was chosen as it measures interpersonal victimisations broadly across several life domains and developmental stages of childhood and adolescence. Furthermore, the JVQ includes contextual factors, covers all the major forms of crimes against youth, and represents a more comprehensive and specific measurement approach than other existing tools for measuring acts of childhood mistreatment (Grasso et al., 2013a; Pereda, Gallardo-Pujol, & Guilera, 2018). Finally, the JVQ was chosen as it demonstrates good internal consistency (Aho et al., 2016b; Gren-Landell, Aho, Andersson, & Svedin, 2011) as well as good construct validity and adequate test-retest reliability (Finkelhor et al., 2005c) and has been applied across a substantial number of childhood polyvictimisation studies (Le et al., 2016).

4.2.1 Eligibility criteria

The current review included studies from low, middle, and high-income countries, and studies based on nationally representative, community, and at-risk samples. The present review included studies published from 2005 (when the polyvictimisation concept was first introduced in the literature) to July 30th, 2019 (when the literature search was conducted). As no agreed-upon cut-off point exists to define polyvictimisation (Finkelhor et al., 2011a), and being cognisant of recommendations from prior reviews of the polyvictimisation literature (Le et al., 2016), no specific numerical threshold was set to define polyvictimisation status in this review and any approach to defining polyvictimisation (e.g. cumulative, categorical, empirical) and any timeframe for measurement (e.g. past year or lifetime) was accepted. Thus, the review applies the broader definition of polyvictimisation inspired by the conceptualisation of polyvictimisation presented by Finkelhor and colleagues as multiple victimisation

exposures of different kinds (Finkelhor et al., 2011a) in addition to certain requirements in terms of victimisation measurement including: (a) the assessment of at least four different types of victimisation (title and abstract screening) to ensure that the element of multiplicity and comprehensiveness in the measurement of victimisations was satisfied and to align with existing review procedures (Hellström, 2019; Le et al., 2016), and; (b) the application of the JVQ as the victimisation measurement instrument (full-text screening) to ensure consistency across studies in terms of defining acts of victimisations.

Table 4.1. Eligibility criteria

Criteria	Inclusion	Exclusion
Time Period	Studies published/dated: 2005 and onwards.	Studies published/dated: before 2005.
Cultural and linguistic range	Studies conducted in high-income, middle-income and low-income countries/settings. Studies with an abstract and full-text in English or the Scandinavian languages[3].	Studies with an abstract and full-text in other languages than English or the Scandinavian languages.
Victimisation criteria	(Title and abstract screening): Studies assessing for and examining at least four *different* forms of interpersonal victimisations. (Full-text screening): Studies using some variant of the JVQ to assess for victimisation exposures.	(Title and abstract screening): Studies assessing for and examining less than four *different* forms of interpersonal victimisations. (Full-text): Studies using some variant of the JVQ in combination with another tool to assess for victimisation exposures. Studies investigating multiple different types of victimisation separately/in isolation, e.g. the association between

[3] The latter was chosen since I am Danish and since this inclusion criteria may generate additional important information.

		sexual victimisation, physical victimisation and psychopathology, respectively. Studies only investigating the association between repeated victimisation of the same type and psychopathology (chronic victimisation, e.g. repeated sexual abuse). Studies investigating an intergenerational aspect of victimisations (e.g. measuring the impact of parental victimisation exposure on children or adolescent mental health). Medical studies/papers describing multiple traumas/polytrauma in medical somatic terms, e.g. being subjected to polytraumatic injuries in terms of serious head injury in addition to e.g. a serious burn.
Study population/participants	Studies addressing solely child and adolescent populations 0-17 years. Studies including male, female, and mixed gender samples. Studies including all types of samples: clinical, community, nationally representative, high risk-samples etc.	Studies investigating polyvictimisation in adult populations (≥18 years) or studies including adults as part of the sample. Studies that are unclear in regard to when the victimisations took place (e.g. no sample mean age or age range reported).
Type of work and literature	Peer-reviewed empirical studies/papers published from 2005 and onwards. In case the same data sample (identical n and identical outcome) is used for analysis in different studies the most novel publication or the study most closely related to the study question is chosen.	Non-peer-reviewed papers and grey literature, e.g. bulletins and research reports, conference posters, conference abstracts, and books in the forms of overviews of existing empirical evidence (no primary empirical study material included).

Empirical criteria/ methodological criteria	All quantitative primary empirical studies including all types of research design such as cross-sectional, experimental, or longitudinal etc. Studies with victimisation rates based on self-reports and caregiver reports. Studies measuring lifetime victimisation and past year victimisation. Studies investigating associations between polyvictimisation and psychopathology with polyvictimisation as the 'independent' factor/variable, e.g. polyvictimisation as a predictor variable. Studies using all types of approaches to polyvictimisation (cumulative, categorical, empirical etc.).	Studies applying a qualitative, mixed-methods, theoretical (non-empirical), treatment-oriented or systematic review/meta-analytical approach to the study of polyvictimisation (and associated psychopathology). Studies investigating solely polyvictimisation prevalence. Studies investigating polyvictimisation as the dependent variable (e.g. risk factors for or pathways to polyvictimisation) or primarily integrating polyvictimisation as a mediating variable.

4.2.1 Information sources and search strategy

The literature search was conducted on July 30th, 2019 in the following six literature databases: Scopus, EMBASE, PsycINFO, Medline, CINAHL, and ERIC. Supplementary to this, the reference lists of the selected studies were screened for additional relevant studies, with no additional studies identified through this step.

The search strategy was designed to specifically target and capture the *poly/multiplicity* aspect of victimisation. Given that different terms, as described in Chapter 2, are often used interchangeably to describe multiple victimisation exposures, a wide range of related search terms were used to ensure a comprehensive search strategy. For example, the following terms with relevant synonyms were searched within each database: (polyvictim*) OR (polytrauma*) OR (cumulative* trauma*) OR (multi* victim*) etc. Upon considering that these terms would appear within an article title or abstract, database searches were limited to abstracts and titles. The full search strategy and list of

search terms can be found in Appendix F.

4.2.2 Data management and selection

The search produced 4,998 references which were imported into the referencing software Covidence and Endnote. After removal of duplicates, a total of 3,998 unique studies were screened based on the title and abstract, which resulted in 255 studies for full-text review. A total of 22 studies were retained and included in the current review. All screening and reviewing were conducted by me and another independent reviewer (i.e. research assistant). Figure 4.1 presents the flow diagram of selected studies.

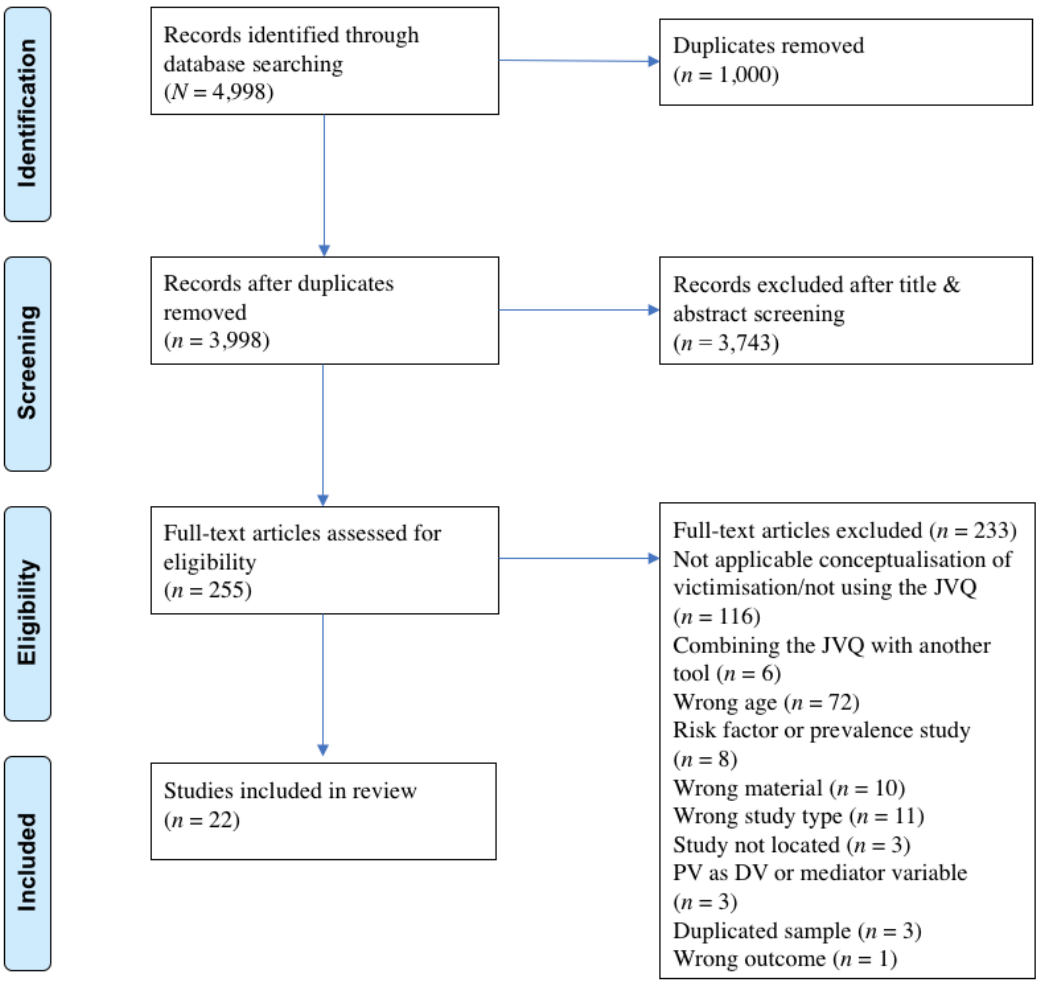


Figure 4.1. Study selection PRISMA flow-chart

Note: PV: Polyvictimisation. DV: dependent variable.

4.2.3 Study characteristics

The following characteristics were extracted from each study using a data extraction matrix: study number; study characteristics (i.e. authors, year, and country); sample characteristics (i.e. number of participants, type of participants [e.g. youth offender population], age range, gender distribution, and study design [e.g. cross-sectional, longitudinal]; definition of polyvictimisation and time frame for victimisation measurement; instrument applied to measure psychopathology outcome(s); association between polyvictimisation and the psychopathology outcome(s) (measures of association included, for example, proportions, standardised (β) or unstandardised (*B*) regression coefficients, OR etc., and the level of statistical significance). This information is presented in the Table 4.2. In terms of the *B* and β values, higher coefficients indicated greater relevance and stronger effects of the predictor/factor variable (polyvictimisation) which supports the assumption that high exposure level (in this case multiple victimisation) increases the response variable (psychopathology) (Nieminen, Lehtiniemi, Vähäkangas, Huusko, & Rautio, 2013). Aligning with existing research standards, for ORs, cut-off values were considered: 1.50 (small), 2.00 (medium), and 3.00 (large) (Smit et al., 2018).

4.2.4 Risk of bias in individual studies and quality assessment of individual studies

The quality of each of the selected studies was evaluated using an adapted version of the quality assessment tool: Standard Quality Assessment Criteria for Evaluating Primary Research Papers, or 'QualSyst' (Kmet, Lee, & Cook, 2004). This tool was chosen as it facilitates a broad and comprehensive assessment of quantitative studies based on different types of research designs by applying a checklist of 14 fixed-choice items assessing various different study components (e.g. if the study question/objective was sufficiently described and if the study controlled for confounders). The questions are rated

using a scale including 'yes' (score of 2), 'partial' (score of 1), 'no' (score 0), and 'non-applicable'. Since the current review is not focusing on the effectiveness of treatments, three items of the original 14-item tool (items 5-7 concerning random allocation and blinding of investigators and subjects) were omitted. In line with Le et al. (2016), an additional item concerning ethical evaluation or approval of the study was added to the quality assessment criteria given the focus on highly vulnerable populations. The final checklist applied in this review was therefore comprised of 12 items. A summary score was calculated as a fraction of the total score (maximum 24, 100%). Included studies were assessed and scored independently by me and an independent research assistant. The quality assessment inter-rater correlation coefficient was .91 [95% CI: .78 - .96] which indicates almost perfect inter-rater reliability (Fleiss, 1971).

By QualSyst standards, studies with a QualSyst score below 59% are categorised as low-quality. Study scores ranging from 60%-64% are classified as low-medium quality and scores ranging from 65%-69% are considered medium quality. Study scores from 70-74% are categorised as medium-high quality and studies with a score of ≥75% are considered high-quality evidence (Kmet et al., 2004). To differentiate within the group of high-quality studies, an additional distinction was constructed for the present review with high quality ranging from 75%-94% and exceptionally high-quality ranging from 95%-100%. The studies with the highest quality scores were given precedence in the result and discussion sections.

4.2.5 Risk of bias across studies

To increase reliability of findings, only studies applying the JVQ to assess victimisation were included in this review. Despite this, clinical, methodological, and statistical heterogeneity across studies meant it was not feasible to conduct a quantitative analysis of the data or a meta-analysis. Results are instead reviewed, presented, and discussed in

a narrative form based on different types of psychopathology.

4.3 Results

4.3.1 Studies included in the review

A total of 22 studies across 62,586 participants were included in the present study. Samples across the included studies ranged from 77 - 18, 341. A full list of included studies can be found in Table 4.2. The ratio of male to female children were reported across 21 studies (except study 9). All but one of the samples included both male and female participants (except study 4) which included only males. Nine studies included samples of both children and adolescents (age range 0-17 years) (studies 3,4,6,9,10,14,20-22), ten studies included only adolescents (age range 12-17 years) (studies 1,2,5,7,12,13,15,17-19) whereas the remaining two studies included child samples only (age range 0-11 years) (studies 8,16) and one study did not report an age range but did present the sample mean age and standard deviation (SD) (study 11).

4.3.2 Study design and setting

All of the 22 studies employed a cross-sectional study design. Seven studies were conducted using data from U.S. participants (studies 9-11,14,20-22), six from Spain (studies 1,2,15,17-19), four from Canada (study 3,7,8,16), two from China (studies 5,6), and the remaining three studies from Pakistan (study 4), the United Kingdom (study 12), and Switzerland (study 13). Thus, according to the World Bank criteria (2019), 19 studies were based in high-income countries and three studies were based in upper-middle-income (China) or lower-middle-income (Pakistan) countries and none of the included studies were based on samples from low-income countries.

Eight studies included community or convenience samples (studies 3,5,6-8,12,15,16). Seven studies included nationally representative samples (studies

9,10,14,20,21), or a subsample of a nationally representative sample (study 22), or a near-representative sample (study 13). Seven studies included samples that could be characterised as ‘high-risk’ or ‘at-risk’ for victimisation such as young offenders, outpatients in mental health services, street children, children in residential care facilities, children in welfare or juvenile justice systems, and children recruited for intervention in relation to violence exposure (studies 1,2,4,11,17-19).

Table 4.2. Study characteristics

Study number	Authors, year & country	Sample & study type	Definition of PV & timeframe for measurement	Psychopathology measurement tool	Association PV and psychopathology [95% Confidence Intervals]	Qaul. syst. score
1	(Alvarez-Lister, Pereda, & Guilera, 2016), Spain	*n*=100 young offenders Age range 14-17 81% males CSS	3 (LT)	YSR	**Severe externalising symptomatology (*T*≥65):** OR= 3.136** [1.265,7.773] **Severe internalising symptomatology (*T*≥65):** NS **Total problem scale (psychosocial impairment): (*T*≥65):** OR= 2.878* [1.035,8.002]	96
2	(Álvarez-Lister, Pereda, Abad, & Guilera, 2014), Spain	*n*=132 adolescent outpatients Age range 12-17 63.6% females CSS	3 (LT)	YSR	**Severe internalising symptomatology (*T*≥65):** OR= 4.977* [1.689, 14.665] **Severe externalising symptomatology (*T*≥65):** OR= 5.834**[1.935, 17.588] **Total problem scale (general psychosocial impairment) (*T*≥65):** OR= 8.468*** [2.770, 25.892]	100
3	(Babchishin & Romano, 2014), Canada	*n*=213 caregivers of children Child age range 6-12 52,6% males CSS	2b (LT)	TSCYC	**Posttraumatic symptoms:** *B*=.36* **Anxiety:** *B* =.33*** **Depression:** *B*=.27*** **Aggression/anger:** *B*=.29***	96
4	(Bashir & Dasti, 2015), Pakistan	*n*=77 street children Age range 9-13 Males only CSS	4 (LT)	MHI	**Psychological distress (Anxiety, Depression, Loss of Behavioral/Emotional Control):** *F*= 8.66*** R^2= .33	65
5	(Chan, 2013), China	*n*=18,341 adolescents Age range 15-17 53.3% males	2a (LT&PY)	UCLA PTSD Index & BDI-II	**PTSD:** 1,4%*** (LT & PY PV) (proportion) **Depression:** 17.0%*** (LT PV) (proportion),	96

		CCS			17.6%*** (PY PV) (proportion)	
6	(Chen & Chan, 2016), China	*n*=793 rural children Age range 10-16 52% males CSS	2a (PY)	CES-DC	**Depression:** AOR= 4.39*** [2.57, 7.50]	94
7	(Cyr et al., 2017), Canada	*n*=1,400 adolescents Age range 12-17 49.7% males CSS	1(LT)	TSCC	**Depression:** β= .277*** **Anger/aggression:** β= .313*** **PTSD:** β= .311***	100
8	(Cyr, Clément, & Chamberland, 2013), Canada	*n*=1,401 caregivers of children Child age range 2-11 51% males CSS	1(LT)	TSCYC	**Depression:** β=.377*** **Anger:** β=.328*** **Anxiety symptoms:** β=.224***	100
9	(Finkelhor et al., 2011b), The U.S.	*n*=4,046 children and caregivers Child age range 2-17 Gender distribution not reported CSS	2b (PY)	TSCC & TSCYC	**Trauma symptoms:** β=.48*** (2-5 years) β=.40*** (6-9 years) β=.48*** (10-13 years) β=.43*** (14-17 years)	88
10	(Finkelhor et al., 2007a), The U.S.	*n*=2,030 children and caregivers Child age range 2-17 51% males CSS	1&2a (PY)	TSCC & TSCYC	2-9 years/10-17 years **Anxiety:** β=.19**/ β=.33** **Depression:** β=.32**/β=.38** **Anger/aggression**: β=.34**/β=.42**	100
11	(Hickman et al., 2013),	*n*=768 children/caregivers	2a (LT)	TSCYC BPI	**PTSD**: β=.13*	96

	The U.S.	recruited for intervention due to violence exposure Child mean age 4.97, *SD*= 2.66 52% females CCS		BITSEA	**Behaviour problems**: β=.19*	
12	(Jackson- Hollis et al., 2017), England	*n*=730 adolescents Age range 13 - 16 years 64.5% females CSS	Extra-familial PV: 2a (PY&LT)	TSCC-A	(PY PV) **Depression**: β= 3.20***, β=3.43*** **PTS**: β= 2.23** **Anger**: β= 3.65***, β= 3.75*** **Dissociation**: β= 3.05*** **Anxiety**: NS	92
13	(Lätsch et al., 2017), Switzerland	*n*=6,749 students Age range 14-17 52.2% males CSS	2 (PY)	SDQ	**Emotional symptoms:** β= .220*** **Conduct problems**: β=.308*** **Hyperactivity:** β=.198*** **Peer problems:** β=.145*** **Sum score:** β=.342***	96
14	(Mitchell, Hamby, Turner, Shattuck, & Jones, 2015), The U.S.	*n*=4,114 children & caregivers Child age range 2-17 51% males CSS	2b (PY)	TSCC & TSCYC	2-9 years/10-17 years **Depression:** β=.7***/β= .8*** **Anxiety:** NS/β= .9*** **Anger/Aggression:** β=.9***/β=.9***	94

15	(Pereda et al., 2018), Spain	*n*=804 adolescents Age range 12-17 52.4% males CSS	4 (LT)	YSR	**Internalising symptoms**: β=.61* **Externalising symptoms:** β=.64*	96
16	(Robert-Mazaye, Clément, Cyr, & Chamberland, 2017), Canada	*n*=972 caregivers of children Child age range 2-11 51.9% males CSS	3 (LT)	TSCYC	**Anger, Depression, or Anxiety**: NS	92
17	(Segura et al., 2016), Spain	*n*=127 adolescents in residential care Age range 12-17 51,2% females CSS	2a&b (LT)	YSR	**Thought problems**: OR = 10.731* [1.708, 67.403] **Rule-breaking behaviours**: OR = 8.374** [2.180, 32.165] **Anxious/depressed symptoms**: OR = 4.550* [1.204, 17.186] **Withdrawn/depressed, attention problems**, **Aggressive behaviour:** NS	100
18	(Segura, Pereda, Guilera, & Álvarez-Lister, 2017), Spain	*n*=95 adolescents in residential facilities, Age range12-17 51.6% males CSS	2a (PY)	YSR	**Internalising symptoms:** OR= 5.21*** [1.88, 14.41] **Externalising symptoms**: OR= 3.43*** [1.40, 8.44]	94
19	(Suárez-Soto, Guilera, & Pereda, 2018), Spain	*n*=277 adolescents involved in youth serving systems Age range 12-17 64% males CSS	2a (LT)	YSR	**Suicidality:** OR= 2.13** [1.186, 3.826]	98
20	(Turner, Finkelhor, Hamby, & Henly, 2017), The U.S.	*n*=13,052 children and caregivers Child age range 0-17 51.7 % males CSS	1 (PY)	TSCC & TSCYC	**Trauma symptoms**: β= 0.27*** [0.24–0.29] (ages 2+)	94

21	(Turner et al., 2010), The U.S.	*n*=4,053 children, adolescents and caregivers Child age range 2–17 years 50,7% males CSS	1&2b (LT)	TSCC & TSCYC	**Trauma symptoms**: β= .57**	94
22	(Turner et al., 2016), The U.S.	*n*=2,312 adolescents Age range 10-17 51,7% males CSS	3 (PY)	TSCC	**Trauma symptom scores:** .93*** (*M*, standardised) **Violent delinquent behaviour:** 47.5%*** (proportion)	98

Note: *$p < .05$. **$p < .01$. ***$p < .001$. NS: Non-significant. PV: Polyvictimisation. CSS: Cross-sectional study. NA: Not available. PY: Past year. LT: Lifetime.
PV definition 1: 'The cumulative approach': PV as a continuous sum variable of either endorsed victimisation items in the JVQ or a sum of aggregated victimisation categories/screeners. PV definition 2: 'The categorical approaches': PV as a categorical variable with specific cut-off values to define PV status e.g. in relation to the sample mean of victimisations, e.g. four or more victimisations (2a) or PV defined by a 90th percentile level in relation to the highest number of victimisations i.e. the top ten percent endorsing the highest number of victimisations (2b). Definition 3: 'The empirical approach': PV identified by means of person-oriented statistical techniques such as cluster analysis, LCA or LPA. Identification of distinct victimisation subgroups, clusters or classes displaying different constellations and levels of victimisation exposures. Definition 4: Other approaches: PV as a five-predictor model/JVQ subscale model or PV as a latent construct formed by the items from the JVQ.
TSCC: The Trauma Symptom Checklist for children, TSCC-A: alternate version of the TSCC. TSCYC: The Trauma Symptom Checklist for young children (Briere, 1996, 2005). YSR: Youth Self Report (Achenbach & Rescorla, 2001). SDQ: The Strengths and Difficulties Questionnaire (Goodman, 1997). MHI: The Mental Health Inventory (Veit & Ware, 1983). BDI-II: Beck Depression Inventory-II (Beck, Steer & Brown,1996). UCLA PTSD Index: UCLA PTSD Reaction Index for DSM-5 (Steinberg, Brymer, Decker & Pynoos (2004). CES-DC: The Center for Epidemiological Studies Depression Scale (Radloff, 1977). BPI: Behaviour Problems Index (Peterson & Zill, 1986). BITSEA: Brief Infant-Toddler Social and Emotional Assessment (Briggs-Gowan & Carter, 2002).

4.3.3 Quality assessment

Thirteen studies received a particularly high-quality rating with scores ranging from 96-100 (M = 97.85, SD = 1.91). Eight studies received a high-quality rating with scores ranging from 88-94 (M = 92.75, SD = 2.12). One study received a score of 65 indicating medium quality. The total quality ratings are presented in Table 4.2.

4.3.4 Victimisation measurement using the JVQ

In the studies included in the review, different versions and adaptations of the JVQ spanning 14-51 victimisation items were used. Different translated versions of the JVQ were used across the studies including Urdu, Chinese, French, Spanish, Catalan, German, and Italian versions (studies 1,2, 4-8, 13,17-19).

4.3.5 Approaches to polyvictimisation

A 'categorical approach' to the definition of polyvictimisation was used in 11 studies (studies 3,5,6,9,11-14,17-19), an 'empirical approach' was used in four studies (studies 1,2,16,22), and a 'cumulative approach' was used in three studies (studies 7,8,20). The remaining two studies applied both a cumulative and categorical approach to polyvictimisation (studies 10, 21) or investigated polyvictimisation by the means of a five predictor polyvictimisation model[4] (study 4) or as a latent construct formed by the items from the JVQ (study 15).

Some studies further categorised polyvictimisation into different levels of multiple victimisation exposure, for example, 'low' and 'high' polyvictimisation (studies 10,17). Other studies established different numerical thresholds to define polyvictimisation status

[4] each subscale of the JVQ as an IV in the model with an R-squared reported for the whole model

for different age groups in their respective samples (studies 3,9,14,20). The different timeframes for measuring polyvictimisation (past year, *n* = 8, lifetime, *n* = 12 or both, *n* = 2), the different versions of the JVQ with varying number of items (14-51), and the diverse operationalisations of polyvictimisation, produced multiple numerical thresholds for and conceptualisations of polyvictimisation status across studies.

4.3.6 Instruments for measuring psychopathology outcomes

Table 4.2 shows that various instruments were employed across studies to assess indicators of child and adolescent psychopathology. The majority of the studies (12) used the Trauma Symptom Checklist for Children (TSCC) (Briere, 1996) and/or the Trauma Symptom Checklist for Young Children (TSCYC) (Briere, 2005) (studies 3,7-12, 14,16, 20-22) followed by The Youth Self-Report (YSR) (Achenbach & Rescorla, 2001), which was employed in six studies (studies 1,2,15,17-19).

4.3.7 Polyvictimisation and associations with psychopathology outcomes

All but one study (study 16) reported a significant positive association between polyvictimisation and at least one indicator of child or adolescent psychopathology. Across the literature, polyvictimisation was found to be associated with both specific types of psychopathology and with more general psychopathology constructs. Polyvictimisation was shown to be positively associated with symptoms of depression across eight studies (studies 3,5-8, 10,12,14). Anger/aggression was another commonly reported psychopathology outcome associated with childhood polyvictimisation across the included literature, with a positive association between polyvictimisation and anger/aggression reported in six studies (studies 3,7,8,10,12,14). Four studies found that polyvictimisation was positively associated with anxiety (studies 3,8,10,14). The associations between polyvictimisation and depression, anger/aggression, and anxiety

were identified in normative child and/or adolescent samples (i.e. community, convenience, and nationally representative samples). Polyvictimisation was also found to be positively associated with PTSD/PTS in five studies. These associations were predominantly identified in normative child and youth populations (studies 3,5,7,12) but also in one high-risk sample (study 11). In addition, polyvictimisation was found to be positively associated with indicators of psychopathology including emotional symptoms, conduct problems, hyperactivity, and peer problems in a normative adolescent sample (study 13) and with rule-breaking behaviour and thought problems among high-risk adolescents (study 17). Polyvictimisation was also positively associated with suicidality among high-risk adolescents (study 19) and with dissociation and violent behaviours in normative samples of children and adolescents (study 12,22, respectively).

A range of studies further reported that polyvictimisation was positively associated with combined categories of psychopathology such as anxiety/depression/loss of behavioural/emotional control among high-risk children (study 4), and anxiety/depression (study 17) among high-risk adolescents. Polyvictimisation was also found to be positively associated with more general psychopathology constructs such as internalising symptoms (studies 2,15,18) and externalising symptomatology (study 1,2,15,18), predominantly in studies concerning high-risk adolescents. Finally, various studies reported a positive association between polyvictimisation and more general classifications of psychological distress or psychosocial impairment covering various dimensions of psychopathology (studies 1,2,9,13,20-22) and included both high-risk and normative samples of children and adolescents. Most of the included studies used multivariate techniques to determine the association(s) between polyvictimisation and

indicators of psychopathology. Two of the 22 studies used bivariate analysis (studies 5,22) and one study applied both bivariate and multivariate techniques (study 10).

Overall, the identified associations were moderate to strong in magnitude across the different types of child and adolescent populations. Among normative child and adolescent samples for example, polyvictimisation was substantially associated in a dose-response manner with depression (β = .38) and anxiety (β = .22) symptoms among Canadian children (study 8). Similarly, a high distress/overall trauma symptom score (mean standardised score = .93) was identified for children and adolescents exposed to polyvictimisation from the U.S. (study 22). Polyvictimisation was also strongly associated with anger/aggression symptomatology in both children (β = .34) and adolescents (β = .42) in the U.S. (study 10), as well strongly associated with externalising symptomatology among Spanish adolescents (β = .64) (study 15).

Among the high-risk populations, polyvictimisation was, for example, strongly associated with anxiety/depression symptoms among Spanish youth in residential care (OR = 4.6) (study 17). Furthermore, polyvictimisation was strongly associated with externalising symptomatology among Spanish adolescent offenders (OR = 3.1) (study 1) and with general psychosocial impairment among Spanish outpatient youth (OR= 8.5) (study 2). (See table 4.2 for the associated 95% CIs).

4.4 Discussion

This review was to first to investigate the associations between childhood psychopathology and polyvictimisation, as measured by the JVQ, among children and youth across various geographical and economic contexts and spanning both normative and high-risk child and adolescent samples. The results showed that despite every study employing the same measure for victimisations (JVQ), polyvictimisation was

operationalised in multiple and diverse ways across studies. This poses a significant challenge to efforts attempting to synthesise and compare results across studies.

Despite the inconsistencies in the operational definition of polyvictimisation, 21 of the 22 studies in this review identified a positive association between polyvictimisation and at least one indicator of child and adolescent psychopathology. The associations between polyvictimisation and various indicators of adverse mental health were identified across diverse samples, varying time spans (past year and lifetime), different methodologies, and different analytical techniques suggesting that exposure to multiple victimisation in childhood is an encompassing problem affecting children negatively across national settings and child life circumstances.

According to the extant literature, and as reviewed under Chapter 2, Section 2.11, the internalising and externalising problem spectra represents one of the most widely agreed upon taxonomies in psychopathology research (Achenbach et al., 2016). Furthermore, high rates of comorbidity between internalising and externalising problems have been demonstrated across the literature (Achenbach, 1982; Chase & Eyberg, 2008; McConaughy & Skiba, 1993; Willner et al., 2016). The psychopathology outcomes found to be associated with polyvictimisation in this review can therefore be further regrouped into three, more general, dimensions of psychopathology. The first dimension includes inner-directed types of psychopathology, such as anxiety and depression, alone or in combination, and is conceptualised as over-controlled behaviours or internalising problems (Mash & Dozois, 2003). The second general dimension of psychopathology includes more overt expressions such as anger, hyperactivity, and delinquent behaviours, and is conceptualised as under-controlled behaviours or externalising problems (Levesque, 2011; Tandon et al., 2009). Finally, the third dimension includes both

internalising and externalising problems, i.e. multiple forms of psychopathology or overall distress.

The classification of psychopathology indicators into these three more general domains of child psychopathology, as supported by extant research, was therefore brought forward in Chapter 5 to inform the selection of mental health variables in the quantitative analysis of the DCC BIT data. Specifically, externalising and internalising problems, as well as overall distress (combined category), as important correlates of polyvictimisation across the included research literature, were used to reclassify the psychological signs or reactions of the child included in the BIT data, as the key outcome variables of interest in Chapter 5, as described in greater detail in Section 5.3.5.

A number of studies further demonstrated that polyvictimisation was more strongly associated with psychopathology than individual (sub)types of victimisation, and that controlling for polyvictimisation substantially reduced - or eliminated - the association between individual types of victimisation and psychopathology (Finkelhor et al., 2007a; Jackson- Hollis et al., 2017; Lätsch et al., 2017; Turner et al., 2010). Even though some individual types of victimisations such as sexual victimisation (Cyr et al., 2017; Segura et al., 2016; Suárez-Soto et al., 2018), maltreatment (Cyr et al., 2017; Finkelhor et al., 2007a; Lätsch et al., 2017), assault (Cyr et al., 2017; Cyr et al., 2013), and witnessing victimisation (Cyr et al., 2017; Cyr et al., 2013; Finkelhor et al., 2007a) remained independent predictors of mental health outcomes across a range of studies, the predictive power of individual types of victimisations tended to strongly decrease when polyvictimisation was accounted for. These findings accentuate the importance of a broad and comprehensive victimisation assessment to obtain complete victimisation profiles of youths and to avoid overestimating the impact that a single type of victimisation has on psychopathology outcomes.

Most studies identified a strong or moderate association between polyvictimisation and psychopathology. Particularly strong associations were identified in studies of high-risk groups (Álvarez-Lister et al., 2014; Alvarez-Lister et al., 2016; Segura et al., 2016; Segura et al., 2017), which is not surprising due to the clinical or welfare system contexts of these studies. These results corroborate the assumption that polyvictimisation is especially strongly related to psychopathology among disadvantaged groups (Andrews et al., 2015; Ford, Wasser, & Connor, 2011), and underlines the significance of accounting for the multiplicity issue of victimisation experiences when studying mental health among vulnerable populations that are at high risk of facing the dual burden of traumatic exposures and mental health issues. The strength of associations between polyvictimisation and psychopathology outcomes among the high-risk risk groups in this review should however, be interpreted with caution since research suggests that strong associations in the forms of large ORs may be overstated for groups with high initial risk (Davies, Crombie, & Tavakoli, 1998) such as children involved in justice or welfare systems.

All of the included studies in the present review were cross-sectional studies which hinders inferences about causality. Extant research, including the PP model (Chapter 2, Section 2.10.1) implies that victimisation and mental health symptomatology are complexly interrelated and that causality may be bi-directional; in addition to be a potential outcome of childhood victimisation, the onset of psychopathology can increase a child's vulnerability and thus serve as a risk-factor for additional victimisations and polyvictimisation (Cuevas, Finkelhor, Ormrod, & Turner, 2009; Finkelhor et al., 2009b; Turner et al., 2017).

The various instruments employed to assess psychopathology across studies resulted in heterogeneity in terms of outcomes. A quantitative analysis or synthesis of the

results on the psychopathology outcomes was, therefore, not feasible. Future research on specific psychopathology markers characterised by homogeneity in terms of measurement instruments (victimisation and psychopathology) and polyvictimisation criteria is warranted to fully establish the links between polyvictimisation and specific domains of psychopathology.

Altogether, the results of the present review lend further support to the well-established link between multiple traumatic or victimising exposures and adverse mental health outcomes (Grasso et al., 2013a; Hughes et al., 2017; Liming & Grube, 2018). Findings are also in line with results from recent systematic reviews (Chapter 2, Section 2.12), spanning both adult and child samples, documenting how individuals exposed to a high number and broad range of traumas, victimisations or adversities tend to display the worst mental health outcomes and highest symptomatology levels (Contractor et al., 2018; Debowska et al., 2017; Hughes et al., 2017).

As described in Chapter 2, Section 2.12, exposure to multiple interpersonal victimisations in childhood increases the risk for a host of deleterious social and health outcomes in adulthood. Since the results of this review and extant literature have documented strong links between polyvictimisation and mental health problems in both childhood and adulthood, the issue warrants continuous attention of scholars, policymakers, and professional practitioners etc. working within the field of child abuse and neglect.

4.5 Future research directions

4.5.1 Understanding polyvictimisation as a multifaceted phenomenon

Most of the studies in this review applied a 'categorical approach' to the definition of polyvictimisation. A smaller group of studies applied 'cumulative' and 'empirical'

approaches to defining polyvictimisation. This finding further lends support to those who have called for changes to the traditional application of polyvictimisation as a unidimensional concept, reduced to a simple count of victimisations (Adams et al., 2016), and given that distinct patterns (or latent profiles) of victimisation are identifiable in trauma-exposed cohorts (Ford, Grasso, Hawke, & Chapman, 2013). Specifically, these distinct victimisation patterns may carry differential risk for mental health outcomes with the potential to better inform treatment and intervention planning (Contractor et al., 2018; Ford et al., 2013). Future research on the association between polyvictimisation and psychopathology would therefore benefit from considering both quantitative and qualitative dimensions of polyvictimisation to obtain a more sophisticated understanding of how it relates to mental health problems (Contractor et al., 2018). Person-centred statistical techniques such as LCA or LPA are particularly useful for studying complex patterns of victimisation co-occurrence (Debowska et al., 2017; Ford et al., 2013; Rivera et al., 2018).

4.5.2 Investigating polyvictimisation through developmental-oriented lenses

A range of studies in this review highlighted the importance of age and developmental stage when investigating and defining polyvictimisation among children and youth (Babchishin & Romano, 2014; Finkelhor et al., 2007a; Finkelhor et al., 2011b; Lätsch et al., 2017; Segura et al., 2016). Since older children engage in more life domains and have had more time to accumulate victimisation exposures relative to younger children, samples could be distinguished based on developmental stage, i.e. children and adolescents with the identification of distinct numerical thresholds or different patterns of victimisations for different age groups (Turner et al., 2010). This is consistent with existing child maltreatment and victimisation literature highlighting the importance of a developmentally sensitive approach to the investigation of childhood harms (Dierkhising,

Ford, Branson, Grasso, & Lee, 2019; Rivera et al., 2018), since some types of victimisations are more prevalent within certain developmental stages (Finkelhor, 2008; Hamby & Grych, 2013).

4.5.3 Accounting for location and perpetrator information in the investigation of polyvictimisation and psychopathology

Several of the included studies emphasised how information on victimisation location and perpetrator characteristics represent important future areas of concern when studying child victimisation and polyvictimisation since these factors can moderate the association between victimisation exposure and mental health status (Hickman et al., 2013; Jackson-Hollis et al., 2017; Segura et al., 2016; Turner et al. 2016). As described in Chapter 2, Section 2.13.1, previous research indicates that childhood betrayal trauma by a caregiver or other close or trusted person is strongly associated with mental health difficulties and interpersonal problems (Cloitre et al., 2002; Gamache Martin et al., 2012). Individuals who suffer multiple interpersonal traumas committed by significant others, especially if occurring across different life contexts, are therefore at particularly high risk for chronic mental health problems (Finkelhor et al., 2011a). It will be important that future research evaluates whether these context-specific factors moderate the association between polyvictimisation and psychopathology among youths, as such information could inform the development of clinical interventions to mitigate risk among those vulnerable to the worst mental health outcomes.

4.6 Limitations

This study part has several limitations. First, included studies were all cross-sectional, which hinders inferences about causality. Longitudinal research using the JVQ is warranted to estimate and understand the direction of associations and the actual effects

of polyvictimisation on psychopathology. Longitudinal research employing the JVQ exists but was excluded in this review due to the age limits (0-17) imposed on the inclusion criteria (Finkelhor et al., 2007b; Turner, Finkelhor, Shattuck, & Hamby, 2012; Turner, Shattuck, Finkelhor, & Hamby, 2015).

Second, only peer-reviewed journal articles in English and the Scandinavian languages were considered for inclusion in the present review, which may result in publication bias and exclusion of otherwise relevant sources of information. Third, the global scope of this review was limited somewhat by virtue of the fact that most of the studies that met the inclusion criteria came from North American and European nations. Additional research from non-Western samples considering the context-specific nature of polyvictimisation is necessary. More research using the JVQ within lower resource settings, and potentially adapting the tool to different types of legal settings, are required to fully synthesise the global evidence on the impact of polyvictimisation on child and youth mental health status. Fourth, the review focused on and included only studies investigating the associations between polyvictimisation and *negative* dimensions of mental health (i.e. psychopathology) and did not include studies focusing on how positive features or constructs such as social support or other resilience factors may mediate or affect the links between polyvictimisation and psychopathology (Guerra, Pereda, Guilera, & Abad, 2016; Segura, Pereda, Guilera, & Hamby, 2017).

Finally, the concept of polyvictimisation or the exposure to multiple victimisations among children and youth have also been investigated by the means of other conceptual frameworks and instruments than the PV framework and the JVQ. As described in Chapter 2, other frameworks and concepts also address the multiplicity aspect of exposure to childhood harms that additionally include types of environmental stressors that have shown to be important predictors of adverse mental health among

children, but which are not included in the JVQ. While the PV framework presented by Finkelhor et al. and the accompanying literature to date represent the most comprehensive body of literature informing about the associations between multiple victimisation and adverse mental health in childhood and adolescence, future research would benefit from a wider conceptualisation of interpersonal victimisation to incorporate additional levels of the child's ecology given that environmental stressors are likely to co-occur with child abuse and are likely to also negatively impact mental health. A broader and more integrated understanding of how various stressors and environmental factors impact child mental health is therefore warranted.

4.7 Conclusion

The present review demonstrates that child and adolescent polyvictimisation, irrespective of how the construct is defined, is positively associated with multiple forms of child and adolescent psychopathology including internalising and externalising problems as well as total psychological distress. These findings were observed in multiple different types of child and youth samples and across various nations and cultures. There can be no doubt that polyvictimisation is a substantial risk factor for various mental health problems spanning both inner-directed and outer-directed difficulties and requires the attention of professionals working with child abuse as well as mental health policy makers. This field of research would benefit from establishing a standardised approach to defining and measuring polyvictimisation as the current inconsistencies in methods of defining and measuring polyvictimisation stands to severely undermine the scientific impact of this body of work. Finally, more well-designed, longitudinal studies with children and adolescents that take account of the context-specific nature of polyvictimisation are required to better establish the causal relationships between polyvictimisation and

psychopathology, and to identify important social and psychological predictors of mental health outcomes so as to improve prevention and intervention efforts.

Chapter 5: Investigating sex-specific profiles of childhood victimisation and their associations with mental health outcomes, child background characteristics, and abuse-related factors in the DCC child population

5.1 Chapter outline

This chapter addresses the second objective of the study by answering the following set of research questions. As a reminder, these are:

1) Which sex-specific victimisation profiles can be identified in the child and youth population in the DCC based on the categories of sexual and physical violence victimisation, and other types of victimisations?
2) How are the identified profiles associated with adverse psychological outcomes?
3) Which child background characteristics and abuse-related factors are associated with profile membership?

These questions are addressed in four parts. First, the sample, measures, procedures, and descriptive statistics for females, males, and the total sample are presented. Second, it is investigated whether different latent classes of victimisation co-occurrence exist among boys and girls assessed in the DCC using the statistical technique LCA. Third, child characteristics and abuse-related factors such as age, type and number of perpetrators, number of settings, and living arrangement at the referral time are used to predict class membership for males and females, respectively, using multinomial logistic regression. Finally, between-groups analysis of variance (ANOVA) is employed to assess the associations between the resultant victimisation classes and indicators of mental health.

5.2 Sample and procedure

The present study included a national sample of 2,198 children and adolescents (age range 1-17 years) assessed at the DCC between June 2016 and December 2018. As the rates of child inhabitants in Denmark differ per region, the yearly number of cases varies regionally from centre to centre. Of the total sample used in this analysis, 33.6% of the children in the sample (n = 739) had undergone assessment in the Children Centre for the Southern Region of Denmark, 19.9% in the Middle Region (n=438), 16.9% in the Zealand Region (n = 372), 16.4% (n = 361) in the Capital Region, and finally 13.1% (n = 288) of the children had been assessed in the Children Centre for the Northern Region of Denmark. Overall, these numbers approximate the distribution of cases per regional centre reported in the most recent yearly statistics reports conducted by the DNBSS (Socialstyrelsen, 2018a, 2019a). As explained in Chapter 3, Section 3.7.2, due to changes implemented in the BIT database (removal and update of variables) in the beginning of 2016, only cases from July 2016 onwards are included in the following analysis to ensure uniformity of the data.

5.3 Measures: Victimisation variables: Child physical abuse, child sexual abuse/assault, and household victimisation

5.3.1 Child physical abuse (CPA)

The term 'child physical violence' is conceptualised by the DNBSS as:

> *The intentional use of physical force which results in or has the potential to cause physical injury. In addition to violence exposure, experiencing violence against parents or siblings, i.e. the child is aware of or witnessing violence, is also included in this category' (Socialstyrelsen, 2019b).*

The physical violence measure inquired into acts of physical violence spanning both 'blunt' and 'sharp' instruments. Blunt violence is violence perpetrated by the means of

slaps, kicks etc. or by the use of blunt objects, i.e. objects that do not have pointed or sharp edges. Sharp violence, on the other hand, is defined by the use of sharp or pointed objects (Socialstyrelsen, 2016). Violence forms also spanned non-contact and contact forms of violence (e.g., being beaten with an item, being slapped or smacked, or being exposed to threats of violence). Appendix G includes the full list of physical violence types and their definitions.

In terms of physical violence, the DCC solely manage cases of violence committed within 'close relationships' (i.e., by family members or other proximate persons). Therefore, the cases of child physical violence are henceforth referred to as child physical abuse (CPA) in the current study.

5.3.2 Child sexual abuse/assault (CSA)

The DNBSS defines child CSA as: *The involvement of a child in a sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent to* (Socialstyrelsen, 2018c).

For a list of the different sexual victimisation acts and their definitions, covering both physical contact and non-contact forms, see Appendix G. The DCC handle all types of child sexual victimisation cases and thus include sexual abuse committed by caregivers and sexual assault committed by strangers or persons more distal to the child. The conceptualisation of CSA used in the current study refers to both sexual assault and sexual abuse.

Rates of CSA and CPA were estimated using the variable 'Type of abuse' in the BIT data with multiple response options: physical abuse, sexual abuse/assault, and unknown. Two binary variables were constructed to reflect the presence (coded as 1) or absence (coded as 0) of CSA and CPA. Since the aspect of abuse co-occurrence is

investigated and covered by the use of LCA no distinct variable reflecting the overlap of the two victimisation types was generated.

5.3.3 Household victimisation

Rates of various types of household stressors were estimated using the variables in the BIT database concerning the social/family background of the child that describe:

> *The evaluation of the familial or social background. These are factors that characterise the child's upbringing and family condition. It is the social condition of the family and not the child. The conditions should not necessarily be related to the abuse or violence (Socialstyrelsen, 2019b).*

The ten items presented in BIT include: Household alcohol or drug abuse, weak labour market attachment/unemployment, frequent moving/relocating, adult criminality, adult sexual assault of a parent or caregiver[5], household sexually problematic/transgressive behaviour[6], parental conflict, adult physical illness, adult mental illness, and domestic violence. Appendix G includes the operationalisations of the social background/household victimisation items collected by the DNBSS. Consistent with the literature reviewed in Chapter 2 and more specifically the conceptualisation of interpersonal victimisation presented in the MCA scheme in Chapter 2, Section 2.5.7, and the transactional and/or ecological models of child maltreatment in Chapter 2, Section 2.9.4, the variables used for analysis are spanning various types of interpersonal victimisation. These cover both abuse and environmental stressors including direct exposure to child abuse in the microsystem, to adult developmental histories such as caregiver mental illness, to exosystem related factors more indirectly influencing the

[5] Parents or close relatives are sexually assaulting each other, e.g. rape of a parent.
[6] The parents or other caregivers are exhibiting sexually problematic/transgressive behaviours (directed towards each other or the child), e.g. watching porn when the child is present

family environment such as parental unemployment/weak labour market attachment (as an indicator of low-income status). The items are thus representing different levels of the child's ecology with an emphasis of the role of environmental factors which aligns with the ecological models stressing the importance of studying and including the contexts in which children are embedded. The household victimisations were presented in a binary response format indicating the presence (coded as 1) or absence (coded as 0) of each type. In total, 12 separate binary-coded victimisation items were modelled in the LCA analysis.

5.3.4 Child background characteristics and abuse-related variables

5.3.4.1 Type and number of perpetrators

Information about the perpetrator(s) was retrieved from the section in the BIT system regarding 'Information about the suspected person(s)'. Since the police investigation is not completed at the time of the assessment in the children centre, the term 'suspected perpetrator' is employed (Socialstyrelsen, 2017). Information about the type of perpetrator(s)/the relationship between the child and the suspected person (parent, sibling, friend, teacher etc.) was employed for analysis. The total list of types of suspected perpetrators can be found in Appendix G. To account for the concept of 'betrayal trauma' (Freyd, 1996), a dichotomous variable was constructed to reflect if the suspected individual was a biological parent (coded as 0) or other type of perpetrator (coded as 1). Furthermore, an existing continuous variable from the BIT database specifying the number of suspected perpetrators, was used to account for the aspect of multi-perpetrator abuse.

5.3.4.2 Number of abuse settings

Information regarding the number of abuse settings was included to account for the aspect of multi-setting abuse i.e. children being exposed to harms across different contexts and

life domains. An existing continuous variable from BIT, 'number of settings', was used to account for this aspect in the analysis.

5.3.4.3 Living arrangements

Information about the living arrangement of the child at the time of the assessment in the centre was derived from the section in BIT called 'Information about the child'. A binary variable was constructed to indicate if the child was living in an alternative or out-of-home -arrangement or placement, (e.g. foster care, institution, crisis centre, asylum centre) (coded as 0) or was living with one or both parents, other family, or at a boarding school etc. at the time of the assessment in the children centre (coded as 1). The total list of living arrangement response options and how they were coded for the present analysis can be found in Appendix G.

5.3.5 Mental health: internalising, externalising and total problems

Frequencies of mental health problems were estimated using information from the BIT database section entitled 'The evaluation/assessment of the case by the children centre'. This part includes registration of 26 physical or psychological signs or reactions of the child. Information about psychological symptoms such as anxiety or anger are based on sessions with the child and results from psychological testing/screening as part of the assessment in the centres in which instruments such as the Beck Youth Inventories-II of emotional and social Impairment (BYI-II) (Beck, 2001), Trauma Symptom Checklist for children (TSCC) (Briere, 1996) are applied. A list of the various test instruments commonly employed across the DCC is available in Appendix G. The raw test data is not registered in the BIT database. Based on the screening, test data, and the sessions with the child, a clinical evaluation of the child is conducted. Based on this evaluation the

clinician or other registrar is recording in a binary response format if the child displays a certain symptom (e.g. a symptom of anxiety is present/not present).

For this study, three categories reflecting externalising and internalising problems, as well as a total combined problem score, were constructed. The classifications were informed by the systematic literature review on polyvictimisation and psychopathology (Chapter 4) where different types of externalising and internalising symptoms, and total psychological distress were identified as important correlates of polyvictimisation. The categorisation of specific symptoms for the current analysis was further informed by the classification of symptoms in the Child Behaviour Checklist (CBCL) (Achenbach, 2011). Consequently, the externalising category included four symptoms: anger/verbal aggression, externalising behaviours, poor impulse control, and attention or concentration difficulties. The internalising category included six symptoms: sleep problems, suicidal thoughts or attempts, sadness/devastation, anxiety, introversion/isolation/withdrawal, and critical self-perception. The total problem score included the total ten symptoms. A more detailed description of the symptom variables collected by the DNBSS is provided in Appendix G.

5.4 Hypotheses

Based on the existing literature, a set of hypotheses were formulated for the present study. Multiple systematic literature reviews have found that three or four classes are the most commonly reported number of identified classes in studies of trauma and maltreatment among child and adult populations (Contractor et al., 2018; Debowska et al., 2017). For the LCA it was therefore anticipated that at least three classes would be uncovered among the boys and the girls, respectively. Since extant findings suggests that greater complexity and variation in traumatic exposures exist among females compared to males (Debowska, Boduszek, Sherretts, Willmott, & Jones, 2018; Haahr-Pedersen et al., 2020; McAnee et

al., 2019), it was further hypothesised that a higher number of latent classes would be identified for the female sample relative to the male sample.

In reference to existing literature on polyvictimisation and related constructs, it was predicted that children with high levels and broad spectrums of victimisations spanning different levels of the ecology would endorse higher levels of mental health problems than less-exposed children (Debowska et al., 2017; Hughes et al., 2017). Furthermore, it was hypothesised that different constellations of childhood victimisations would carry differential risks for psychological symptoms (Haahr-Pedersen et al., 2020; Kretschmar, Tossone, Butcher, & Flannery, 2016; Rebbe, Nurius, Ahrens, & Courtney, 2017).

In regard to child background characteristics and abuse-related factors, it was hypothesised that children who had been exposed to multiple types of victimisation would also be more likely to have been abused across multiple settings and by multiple perpetrators (Havlicek, 2014; Turner et al., 2016) and would be more likely to live in an out-of-home arrangement compared to less-exposed children (Horn et al., 2018; Lussier et al., 2016). In terms of age, it was hypothesised that older children would be more likely to have been exposed to multiple different types of victimisation since they engage in more life domains and have had more time to accumulative adverse and stressful experiences relative to younger children (Finkelhor, 2008; Maguire-Jack et al., 2020). Finally, drawing on BTT (Freyd, 1996; Kaehler et al., 2013), it was predicted that victimisation profiles characterised by a higher rate of parental perpetrators, i.e. trusted attachment figures, would display poorer mental health status than profiles with lower proportions of parental perpetrators.

5.5 Data analysis plan

Descriptive statistics, including frequencies, percentages, means (*M*s), and standard deviations (*SD*s) were calculated using SPSS version 25. Differences between boys and girls were assessed using the chi-square test for independence (χ^2) (categorical variables) and independent sample *t*-tests (continuous variables). The Cohen's *d* effect size measure was applied for the *t*-tests. Following the suggestion of Cohen (1988), a *d* value was interpreted in the following way: small (0.2), medium (0.5) and large (0.8) effects. To assess the magnitude of associations of the chi-square test, the OR effect size measure was used. Aligning with existing research standards, for ORs, cut-off values were considered: 1.50 (small), 2.00 (medium), and 3.00 (large) (Smit et al., 2018).

LCA was conducted using Mplus version 8.2 (Muthén & Muthén, 2013) and models were estimated using the robust maximum likelihood estimator (Yuan & Bentler, 2000). Following the selection of the appropriate class solutions for boys and girls, the discriminant and predictive validity of the classes were assessed. Mean differences in internalising, externalising, and total problems were estimated and assessed using ANOVA tests followed by Tukey's honestly significant difference (HSD) post hoc test to assess specific inter-class differences. Finally, multinomial logistic regression was performed to assess the associations between child background characteristics, abuse-related factors, and class membership. Associations were assessed using ORs and the associated 95% CIs.

5.6 LCA

Latent class analysis is a data reduction technique that seeks to summarise the observable data in a substantively meaningful way by classifying individuals (or cases) into a number of homogenous and mutually exclusive latent classes characterised by similar response

patterns to categorical data (Murphy, Houston, & Shevlin, 2007; Nylund, Asparouhov, & Muthén, 2007). LCA is a person-oriented method that facilitates an investigation of how various characteristics (e.g. childhood victimisations) co-occur and are configured within the same individual (Debowska et al., 2017). In the context of childhood victimisation research, the method is optimal since it facilitates the identification of complex and otherwise unobservable configurations of abuse co-occurrence (Shevlin, Murphy, Elklit, Murphy, & Hyland, 2017). The method thus enables an investigation of both victimisation intensity (quantitative differences) and variations in victimisation co-occurrence (qualitative differences) within the data (Contractor et al. 2018). Hence, LCA is an ideal technique for investigating different patterns or profiles of victimisation in the DCC context.

The LCA method is probabilistic and an individual is assigned to the class for which its assignment probability is the highest (Geiser, 2013; Kretschmar et al., 2016). Contrary to clustering techniques such as the hierarchical cluster approach, LCA provides external and objective criteria for determining the optimal number of classes and for evaluating the distribution of individuals to subgroups (Contractor et al., 2018; Schreiber & Pekarik, 2014). Furthermore, LCA is a model-based method that provides a range of diagnostic indices for describing the fit of the model to the data which is valuable in the process of model assessment, and the method is thus considered robust, flexible, and sophisticated across the research literature (Contractor et al., 2018; O'Donnell et al., 2017; Petersen, Qualter, & Humphrey, 2019; Schreiber & Pekarik, 2014; Shevlin et al., 2017). According to Magidson and Vermunt (2004), a crucial strength of LCA is its probabilistic clustering approach that provides a detailed description of the distribution of the data and also captures the uncertainty element of an individual's class membership.

In LCA, the Maximum Likelihood estimator (ML) is used to maximise the

likelihood function to detect the model with the largest possible log-likelihood value. The latter is an indicator of the probability of the observed data given the model i.e. how well the parameter estimates explain the manifest data and is the basis for estimating a range of fit statistics (Geiser, 2013). The purpose of the likelihood function is thus to identify the most accurate solution/model (referred to as the global solution). An issue with mixture models such as LCA is that the likelihood functions can perform randomly (i.e. local maxima) and thus incorrectly suggest that the optimal solution has been identified (Roesch, Villodas, & Villodas, 2010).To avoid local maxima and to obtain the true maximum, i.e. the optimal solution with the highest log-likelihood value, a large number of different starting values and initial stage iterations are recommended to help establish if the best solution can be replicated as an indication that the correct class model has been identified (Geiser, 2013; Roesch et al., 2010).

Another principle of LCA is parsimony (Murphy et al., 2007), meaning that a smaller number of classes is preferable since local maxima is more likely to occur in more complex models (Geiser, 2013). In order to select the optimal number of classes, the relative fit of a number of competing models are assessed using a range of goodness of fit measures. These indices include the Akaike Information Criterion (AIC) (Akaike, 1987), the Bayesian Information Criterion (BIC) (Schwarz, 1978), and the sample-size adjusted BIC (ssaBIC) (Sclove, 1987). In all cases, the model with the lowest values is considered the best fitting (Geiser, 2013). Simulation studies have indicated that the BIC is the superior information criteria for detecting the correct number of classes (Nylund et al., 2007). Additionally, the Lo-Mendell-Rubin adjusted likelihood ratio test (LMR-A) (Lo, Mendell, & Rubin, 2001) can be used to compare models with increasing numbers of latent classes. A non-significant value indicates that a class with one additional class does improve the fit to the data and a more parsimonious model should be selected

(Murphy et al., 2007). Finally, entropy values (range 0-1) assess how accurately individuals are classified into classes with higher values indicating better classification (Murphy et al., 2007).

Extant research suggests that class solutions should also be plotted to facilitate the interpretation of findings and to evaluate if the classes are visually distinguishable (Debowska et al., 2017). The construct and discriminant validity of the classes should also be tested by relating them to external variables, e.g. covariates or outcome variables to evaluate if the classes are also conceptually meaningful (Bauer, 2007; Contractor et al., 2018; Petersen et al., 2019). Finally, class solutions should be checked for their consistency in relation to existing theory and empirical research (Shevlin et al., 2017).

For the current analysis, the aforementioned 12 victimisation items spanning different domains of the child's ecology were modelled in the LCA. To avoid solutions based on local maxima, 200 random sets of starting values and 20 final stage optimisations were used. First, it was checked if the log-likelihood value was replicated across the set of starting values. Next, the information criteria were assessed to compare models with increasing number of classes. Since the BIC has demonstrated superior performance for detecting the correct number of classes, this index was given precedence in the class enumeration process. Additionally, the LMR-A test was used to compare competing models and entropy values were evaluated to appraise the accuracy of the classifications of children. Finally, class solutions were plotted to assess the interpretability of the latent classes and the discriminant and construct validity of the class solutions were tested by the means of supplementary statistical analysis. Due to significant differences between the sexes on CPA, CSA, and household victimisation experiences (see results and Table 5.2), and supported by existing evidence of sex differences in exposure to different types of childhood harms and polyvictimisation (Aho

et al., 2016b; Cavanaugh, Petras, & Martins, 2015; McAnee et al., 2019; Roxburgh & MacArthur, 2014; Schilling, Aseltine, & Gore, 2007; Strine et al., 2012), the LCA was performed separately for boys and girls.

When presenting the classes and their conditional item probabilities, a probability ranging between .00-.29 was considered low, probabilities between .30-.59 were considered moderate whereas item probabilities ranging between .60-1.00 were deemed high (Debowska et al., 2018). These categories, however, represent fairly large spans and relatively large intra-categorical spectra. An item probability of .59 (moderate) is, for example, bordering on the high probability category and could therefore be considered moderate-high. In the presentation of classes, the more overall categories of low, moderate, and high probabilities, are however, applied to simplify the presentation of the various classes[7].

5.7 Results

5.7.1 Descriptive statistics, t-tests and chi-square tests

The sample consisted of 44.4% boys (n = 976) (M = 8.44 years, SD = 3.44) and 55.6% girls (n = 1222) (M= 10.02 years, SD = 4.08). All descriptive statistics are presented for the total sample and the for the two sexes separately. Descriptive statistics for the continuous variables are presented in Table 5.1 and for the categorical variables in Table 5.2. In the full sample, 29.0% of the children had been exposed to (suspected) CSA and 75.7% to (suspected) CPA. The most frequently occurring household victimisation event was 'parental conflict' (54.5%), followed by domestic violence (37.8%), weak labour

[7] The current study also refers to latent classes of childhood victimisation as victimisation *profiles*. I am aware however, that the terminology of 'latent profiles', technically speaking, refers to a related analytical method called LPA which is used for continuous indicators, instead of the categorical indicators (Tein, Coxe, & Cham, 2013) used in this study.

market attachment/unemployment (30.7%), and adult mental illness (29.9%). The least reported type of household victimisation was adult criminality (4.8%). A total of 15% of the children had not been exposed to any type of household victimisation. In more than two thirds of cases (72.5%) the mother or the father was registered as the suspected perpetrator, and 16.9% of the children were living in an out-of-home-arrangement (foster care, asylum centre etc.) at the time of the assessment. In terms of mental health status, the mean number of internalising problems was 1.73 (*SD* = 1.64), the mean number of externalising problems was 1.15 (*SD* = 1.32), and the mean number of total problems was 2.88 (*SD* = 2.31).

Table 5.1. Differences between males and females on continuous variables: age, number of perpetrators, number of settings, number of externalising and internalising problems and total problems

	Overall			Females			Males			*t*	Cohen's *d*
	Range	*M*	*SD*	Range	*M*	*SD*	Range	*M*	*SD*		
Age	1-17	9.31	3.89	1-17	10.02	4.08	1-17	8.44	3.44	-9.73***	0.42
Number of perpetrators	1-4	1.27	0.49	1-4	1.25	0.50	1-3	1.29	0.49	1.93*	0.08
Number of settings	1-3	1.03	0.19	1-3	1.05	0.22	1-2	1.03	0.16	-2.51*	0.10
Number of externalising problems	0-4	1.15	1.32	0-4	1.01	1.25	0-4	1.33	1.40	5.02***	0.24
Number of internalising problems	0-6	1.73	1.64	0-6	1.97	1.74	0-6	1.40	1.44	-7.58***	0.36
Total problems	0-10	2.88	2.31	0-10	2.99	2.39	0-10	2.74	2.21	-2.26*	0.11

Note: *t* = independent samples *t*-test; *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

Table 5.2. Differences between males and females on categorical variables: CSA, CPA, household victimisation items, type of perpetrator, and living arrangement

	Overall		Females		Males		χ^2	OR [95% CI]
	n	%	*n*	%	*n*	%		
Child sexual abuse/assault (CSA)	631	29.0	515	42.4	116	12.0	240.73***	5.38 [4.30-6.74]
Child physical abuse (CPA)	1648	75.7	772	63.6	876	91.0	281.76***	5.77 [4.49-7.40]
Alcohol or drug abuse	387	16.6	231	18.9	156	16.0	3.19	1.23 [0.99-1.53]
Unemployment/Weak labour market attachment	675	30.7	389	31.8	286	29.3	1.63	1.13 [0.94-1.35]
Frequent moving/relocating	274	12.5	181	14.8	93	9.5	13.88***	1.65 [1.27-2.15]
Adult Criminality	106	4.8	60	4.9	46	4.7	0.05	1.04 [0.70-1.55]
Adult sexual assault of parent or caregiver	142	6.5	107	8.8	35	3.6	24.00***	2.58 [1.74-3.82]
Adult mental illness	658	29.9	378	30.9	280	28.7	1.30	1.11 [0.93-1.34]
Household sexually problematic/transgressive behaviour	128	5.8	95	7.8	33	3.4	19.10***	2.41 [1.61-3.61]
Parental conflict	1199	54.5	648	53.0	551	56.5	2.57	1.15 [0.97-1.36]

Adult physical illness	266	12.1	147	12.1	119	12.2	0.01	1.02 [0.79-1.31]
Domestic violence	830	37.8	453	37.1	377	38.6	0.56	1.07 [0.89-1.27]
Parental perpetrator (suspected)	1083	72.5	556	65.8	527	81.2	44.40***	2.26 [1.78-2.89]
Living in an out-of-home-arrangement	365	16.9	223	18.6	142	14.7	5.79*	1.33 [1.05-1.67]

Note: χ^2 = chi-square test; OR [95% CI] = odds ratio with 95% confidence intervals; statistical significance = *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$.

5.7.2 Sex differences

Independent samples *t*-test results revealed statistically significant differences between the two sexes on all continuous variables (see Table 5.1). The mean age at the time of the referral was significantly higher for girls compared to boys. A higher mean number of perpetrators was reported for the male children, whereas a higher mean number of abuse settings was reported for the female children. Females displayed significantly higher levels of internalising problems and total problems whereas males endorsed higher levels of externalising problems. All effect sizes (Cohen's *d*) were small (0.08-0.42) (see Table 5.1).

Chi-square difference tests indicated significant differences between the sexes on the variables CSA and CPA with girls being more likely to have experienced CSA (OR = 5.38) and boys being more likely to have experienced CPA (OR = 5.77). Effect sizes (OR) were high. Sex differences were also identified for three household victimisation items, with girls being more likely than boys to come from households characterised by frequent moving/relocating (OR = 1.65), adult sexual assault (OR = 2.58), and household sexually problematic/transgressive behaviour (OR = 2.41). Furthermore, girls had higher odds of living outside of the home at the time of assessment (OR = 1.33). Finally, boys were significantly more likely than girls to have been abused by a parent (OR = 2.26). Effect sizes were low-high (see Table 5.2).

5.7.3 LCA results

Models ranging from one to six classes were estimated for each analysis and the competing models were compared across the different relevant fit indices. The fit statistics for the LCA analyses based on the 12 victimisation items are reported in Table 5.3.

Table 5.3. LCA fit statistics based on responses to victimisation items for males and females

Females (*n*=1222)

Classes	Log Likelihood	AIC	BIC	ssaBIC	LMR-A (*p*)	Entropy
1	-7284	14592	14654	14616	--	--
2	-6444	12939	13067	12988	1661 (< .001)	.96
3	-6259	12595	12789	12668	366 (.007)	.88
4	-6158	12418	12679	12517	200 (.008)	.81
5	**-6103**	**12335**	**12662**	**12458**	**108 (.050)**	**.84**
6	-6064	12282	12675	12431	77 (< .001)	.85

Males (*n*=976)

Classes	Log Likelihood	AIC	BIC	ssaBIC	LMR-A (*p*)	Entropy
1	-4719	9462	9521	9482	--	--
2	-4373	8797	8919	8840	683 (< .001)	.99
3	**-4220**	**8517**	**8703**	**8582**	**302 (< .001)**	**.78**
4	-4172	8447	8696	8534	95 (.003)	.82
5	-4130	8388	8700	8497	83 (< .001)	.81
6	-4108	8370	8746	8501	43 (.002)	.86

Note: AIC: Akaike Information Criterion, BIC: Bayesian Information Criterion (BIC), ssaBIC: sample-size adjusted BIC, (LMR-A): Lo-Mendell-Rubin adjusted likelihood ratio test. Best fitting model in bold.

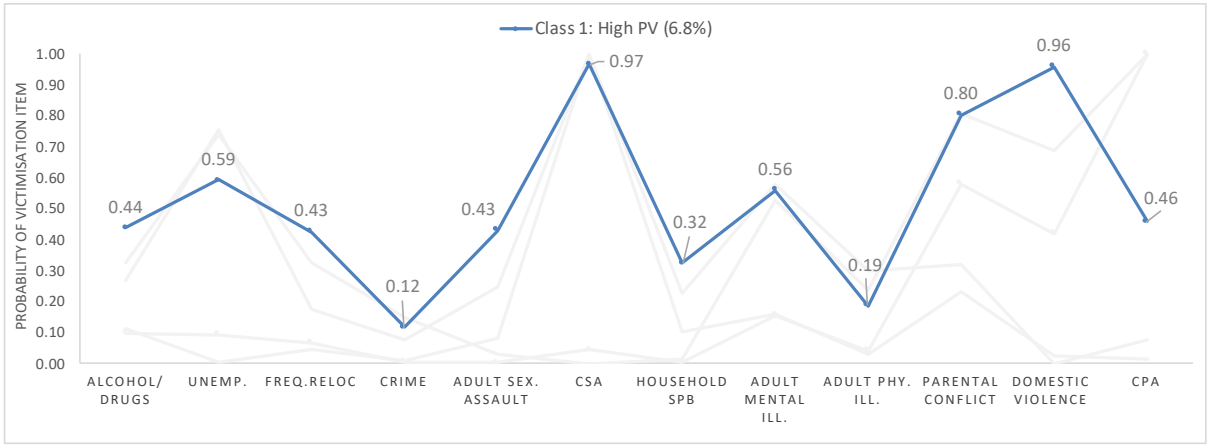
5.7.3.1 Female classes

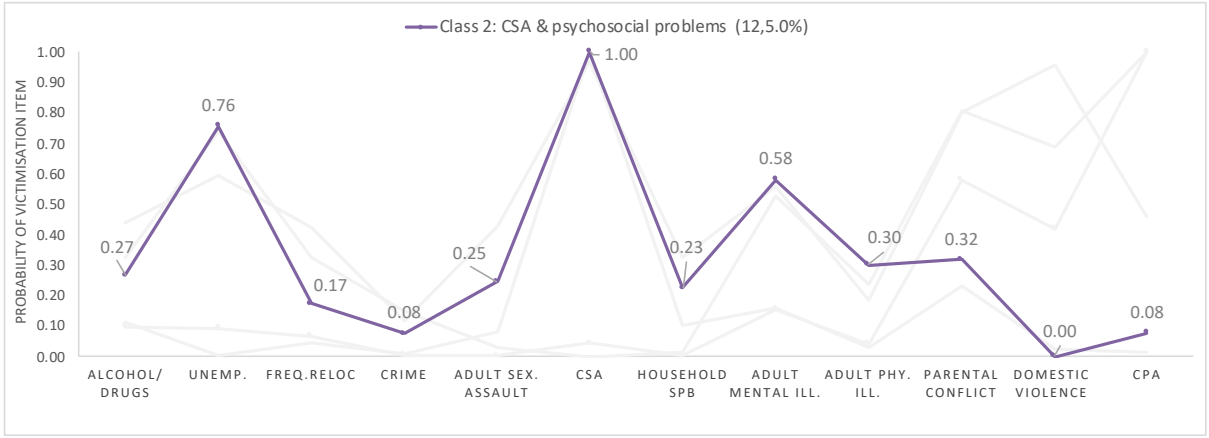
For girls, a solution with five classes was considered the best fitting model to the data (see Table 5.3). The neighbouring six-class model produced the lowest AIC and ssaBIC values, however, one of the classes in the six-class solution was extremely small (2.8%). Extant research suggests that classes comprising less than 5% of the sample may be spurious (Hipp & Bauer, 2006). The five class-solution was chosen due to the principle of parsimony and because it had the lowest BIC value. In addition, the entropy value of .84 indicated that female individuals were well classified by the five-class model. See Figure 5.1 for the female class plots.

Class 1 (6.8%, *n* = 83) was the smallest class and was characterised by a diverse pattern

of victimisation exposures. This class had high probabilities of endorsing CSA (.97), domestic violence (.96), and parental conflict (.80) and a moderate probability of endorsing household unemployment/weak labour attachment (.59), adult mental illness (.56), CPA (.46), alcohol/drug abuse (.44), sexual assault of parent or caregiver (.43), and frequent moving/relocating (.43). This class was distinguished from the other classes by having the highest probability for household alcohol/drug abuse, frequent relocating, and adult sexual assault. This class was the also the only class in which CSA and CPA co-occurred. To reflect this comprehensive pattern of victimisations, this class was labelled 'High polyvictimisation' (High PV). Class 2 (12.5%, *n*=153) shared some similarities with Class 1 as this class was also characterised by an extremely high probability of endorsing CSA (1.00), and high and moderate probabilities of coming from a household characterised by a weak labour market attachment/unemployment (.76) and adult mental illness (.58). In considering this pattern of victimisations, this class was labelled 'CSA and psychosocial problems'.

Class 3 (17.1%, *n*=209) represented a different exposure patterns and was characterised by an extremely high probability of CPA (1.0), high and moderate probabilities of coming from a home depicted by parental conflict (.81), weak labour market attachment/unemployment (.74), domestic violence (.69), and adult mental illness (.53). As such this class was labelled 'Violence, conflict, and psychosocial problems'. Class 4 (21.3%, *n*=260) was characterised by an extremely high probability of CSA (1.00) and very low probabilities of endorsing all other victimisation items. Consequently, this class was labelled 'CSA'. Finally, Class 5 (42.3%, *n*=517) was the largest class among the girls and comprised individuals with an extremely high probability of CPA (1.00), and moderate probabilities of endorsing parental conflict (.58) and domestic violence (.42). This class was, therefore, termed the 'CPA and conflict' class.


Class 1: High PV (6.8%)
PROBABILITY OF VICTIMISATION ITEM
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.44
0.59
0.43
0.12
0.43
0.97
0.32
0.56
0.19
0.80
0.96
0.46
ALCOHOL/ DRUGS
UNEMP.
FREQ.RELOC
CRIME
ADULT SEX. ASSAULT
CSA
HOUSEHOLD SPB
ADULT MENTAL ILL.
ADULT PHY. ILL.
PARENTAL CONFLICT
DOMESTIC VIOLENCE
CPA


Class 2: CSA & psychosocial problems (12,5.0%)
PROBABILITY OF VICTIMISATION ITEM
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.27
0.76
0.17
0.08
0.25
1.00
0.23
0.58
0.30
0.32
0.00
0.08
ALCOHOL/ DRUGS
UNEMP.
FREQ.RELOC
CRIME
ADULT SEX. ASSAULT
CSA
HOUSEHOLD SPB
ADULT MENTAL ILL.
ADULT PHY. ILL.
PARENTAL CONFLICT
DOMESTIC VIOLENCE
CPA

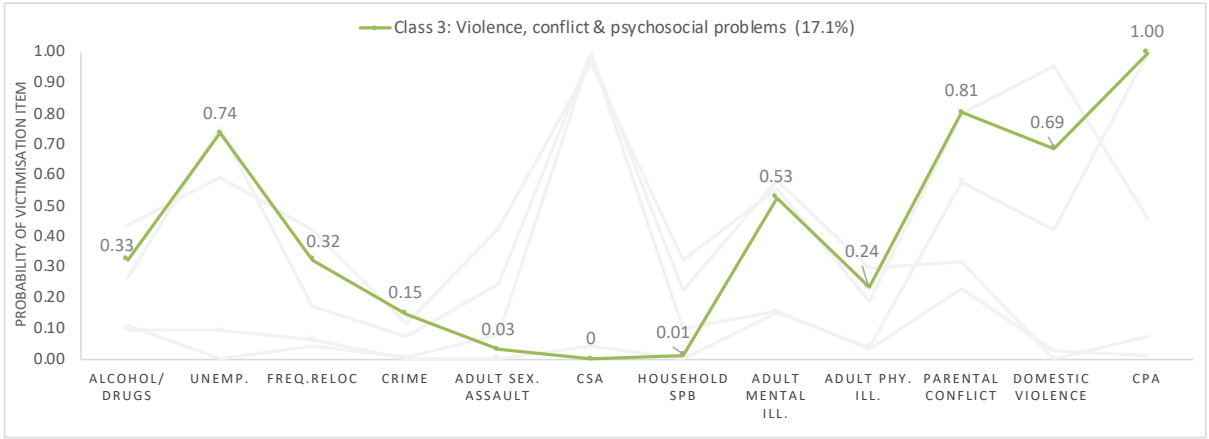

Class 3: Violence, conflict & psychosocial problems (17.1%)
PROBABILITY OF VICTIMISATION ITEM
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.33
0.74
0.32
0.15
0.03
0
0.01
0.53
0.24
0.81
0.69
1.00
ALCOHOL/ DRUGS
UNEMP.
FREQ.RELOC
CRIME
ADULT SEX. ASSAULT
CSA
HOUSEHOLD SPB
ADULT MENTAL ILL.
ADULT PHY. ILL.
PARENTAL CONFLICT
DOMESTIC VIOLENCE
CPA

Figure 5.1. Female class plots

5.7.3.2 Male classes

Among the males, the best fitting model included three classes (see Table 5.3). The LCA for the males was, however, characterised by inconsistencies among the fit indices. The three-class model had the lowest BIC value; however, it was extremely similar to the models with four or five classes. The four-class and the five-class solutions, however, included a small class comprising less than 5% of males. Accordingly, the two more parsimonious models were plotted against each other to facilitate further interpretation. The plots indicated that the four-class solution separated the smallest of classes in the three-class model into two distinct groups both characterised by high endorsement of CSA but quantitatively different levels of household victimisation. Roesch and colleagues state that validation of small classes against external variables is required to establish their stability (Roesch et al., 2010). An ANOVA with post hoc testing showed that the two distinct CSA classes emerging with the four-class solution did not differ significantly from each other on any of the criterion variables. Consequently, the more parsimonious three-class solution was chosen and brought forward for further analysis.

Class 1 (28.4%, *n*=277) was characterised by a mixed endorsement patterns including CPA and different types of household victimisation. The probability for exposure to CPA (1.00), parental conflict (.74), and household weak labour market attachment/unemployment (.71) were high. This class was also characterised by moderate probabilities of domestic violence (.58) and adult mental illness (.57). To reflect this diverse exposure pattern, this class was labelled 'Violence, conflict, and psychosocial problems'. Class 2 (12.0%, *n*=117) was the smallest and was discriminated from the other classes by a very high probability of endorsing CSA (1.00). Probabilities for parental conflict (.35), adult mental illness (.36), and weak labour market attachment/unemployment (.32) were moderate. This class was the only group that

endorsed some degree of adult sexual assault and sexually transgressive behaviour. Consequently, this class was labelled 'CSA and household dysfunction'. Class 3 (59.6%, *n*=582) was the largest and was characterised by a high probability of CPA (1.00) and moderate probabilities of parental conflict (.51) and domestic violence (.33). As such this class was labelled 'CPA & conflict'. See Figures 5.2 for the male class plots.

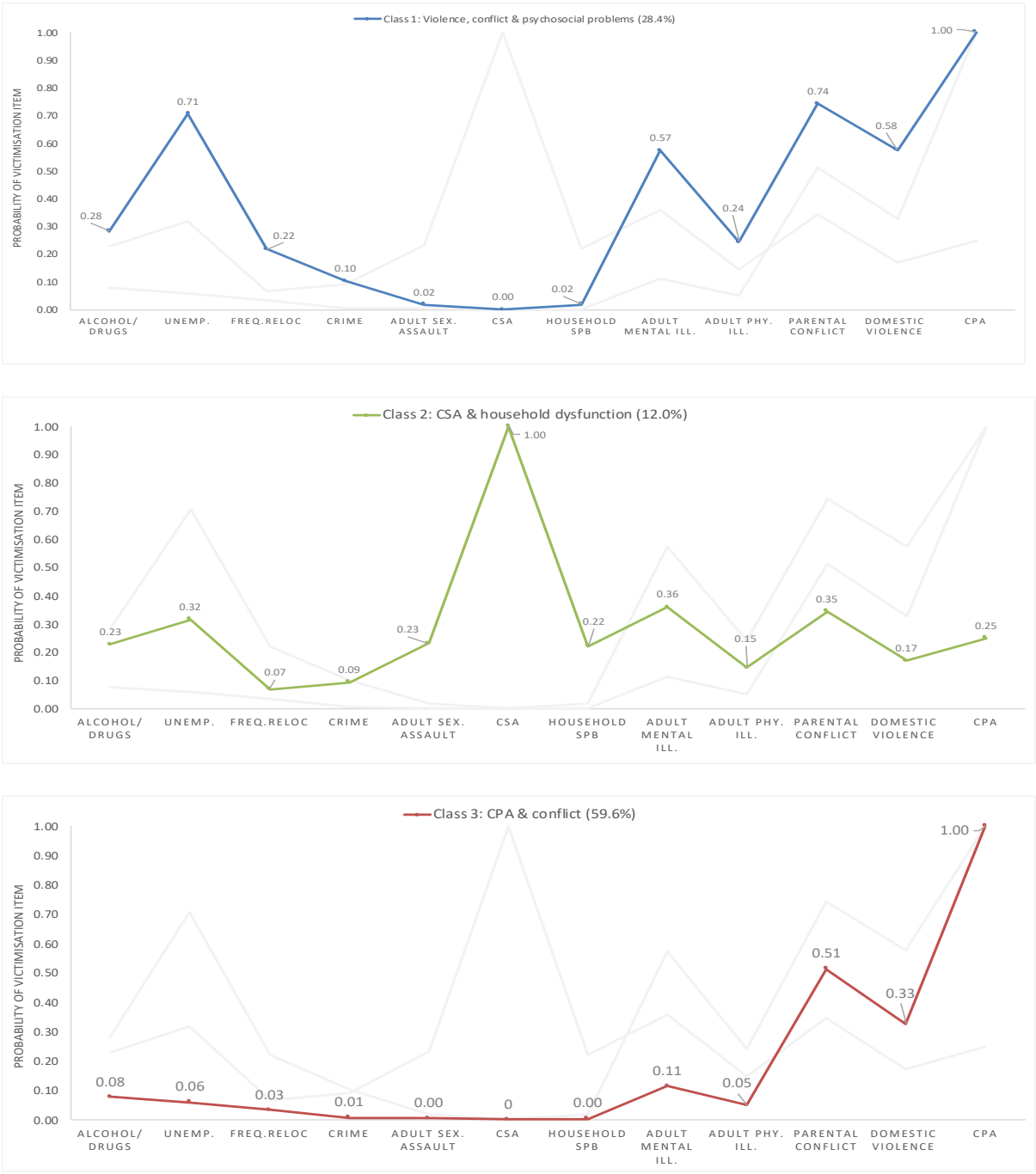


Figure 5.2. Male class plots

5.7.4 Classes and associated mental health problems

Results from the one-way between groups ANOVA tests showed that the victimisation classes significantly differed on all mental health categories among the girls; Internalising problems (F (4,1021) = 14.45, p<.001), externalising problems (F (4,1021) = 4.42, p=.002), and total problems (F (4,1021) = 12.98, p<.001). Likewise, results also showed that the male victimisation classes differed on all forms of mental health categories; Internalising problems (F (2,770) = 5.17, p=.006), externalising problems (F (2,770) = 17.59, p<.001), and total problems (F (2,770) = 21.73, p<.001). Effect sizes were small (.01-.05) (see Tables 5.4 and 5.5).

5.7.4.1 Female inter-class differences

For the internalising domain, post hoc testing showed that the 'High PV' class exhibited a higher symptom score than all other classes except for the 'CSA and psychosocial problems' class (see Table 5.4). The results also indicated that the 'CPA and conflict' class was less affected in terms internalising problems compared to the three classes characterised by at minimum an element of CSA. The two classes characterised by high endorsement of CPA, the 'Violence, conflict, and psychosocial problems' class and the 'CPA and conflict' class did not differ from each other on internalising symptoms. Likewise, the 'CSA and psychosocial problems', the 'Violence, conflict, and psychosocial problems', and the 'CSA' class did not differ in their levels of internalising problems.

In terms of externalising problems, fewer significant inter-class differences were present. The most broadly exposed class, the 'High PV' group, differed significantly from the two least exposed groups, the 'CSA' and the 'CPA and conflict' classes. The two other multi- exposed groups, the 'CSA and psychosocial problems' class and the

'Violence, conflict, and psychosocial problems' class, did not differ significantly from any of the other classes. Also, the two least exposed groups, the 'CSA' and the 'CPA and conflict' groups, did not differ from each other on externalising problems.

For the total problem score, the 'High PV' class had higher levels than all other classes except for the other broadly exposed CSA class (CSA and psychosocial problems). Similar to the results for the internalising and externalising domains, the 'CSA and psychosocial problems', the 'Violence, conflict, and psychosocial problems' class, and the 'CSA' class did not differ from each other on total problems. The 'CPA and conflict' group however, had significantly lower symptom levels than all other classes and was thus the least affected class in terms of total mental health problems.

Table 5.4. Differences between the female classes on internalising and externalising problems and total problems

	Classes	*M*	*SD*	*F*	Eta-squared
Internalising problems	Class 1: High Polyvictimisation	2.94[3,4,5]	1.82	14.45***	.05
	Class 2: CSA & psychosocial problems	2.32[5]	1.85		
	Class 3 Violence, conflict & psychosocial problems	1.91[1]	1.73		
	Class 4: CSA	2.17[1,5]	1.77		
	Class 5: CPA & conflict	1.56[1,2,4]	1.54		
Externalising problems	Class 1: High Polyvictimisation	1.38 [4,5]	1.28	4.42**	.02
	Class 2: CSA & psychosocial problems	1.19	1.23		
	Class 3 Violence, conflict & psychosocial problems	1.15	1.34		
	Class 4: CSA	0.87[1]	1.15		
	Class 5: CPA & conflict	0.91[1]	1.24		
Total problems	Class 1: High Polyvictimisation	4.32[3,4,5]	2.55	12.98***	.05
	Class 2: CSA & psychosocial problem	3.51[5]	2.31		

	Class 3 Violence, conflict & psychosocial problems	3.06 [1,5]	2.36		
	Class 4: CSA	3.04 [1,5]	2.44		
	Class 5: CPA & conflict	2.48 [1,2,3,4]	2.22		

Note: Superscript numbers indicate significant differences between classes; *F* = ANOVA test; Statistical significance: **p* ≤ .05; ***p* ≤ .01; ****p* ≤ .001

Table 5.5. Differences between the male classes on internalising and externalising problems and total problems

	Classes	*M*	*SD*	*F*	Eta-squared
Internalising problems	Class 1: Violence, conflict, & psychosocial problems	1.64[3]	1.50	5.17**	.01
	Class 2: CSA & household dysfunction	1.44	1.49		
	Class 3: CPA & conflict	1.27[1]	1.38		
Externalising problems	Class 1: Violence, conflict, & psychosocial problems	1.76[3]	1.48	17.59***	.04
	Class 2: CSA & household dysfunction	1.41	1.46		
	Class 3: CPA & conflict	1.10[1]	1.29		

Total problems	Class 1: Violence, conflict, & psychosocial problems	3.48[3]	2.34	21.73***	.05
	Class 2: CSA household dysfunction	2.90[3]	2.18		
	Class 3: CPA & conflict	2.33[1,2]	2.06		

Note: Superscript numbers indicate significant differences between classes; *F* = ANOVA test; Statistical significance: *$p \leq .05$; **$p \leq .01$; ***$p \leq .001$

5.7.4.2 Male inter-class differences

For the male classes, post hoc testing showed that the 'Violence, conflict, and psychosocial problems' class had significantly higher levels of internalising and externalising problems than the less-exposed 'CPA and conflict' class (see Table 5.5). The 'CSA and household dysfunction' class did not differ significantly from any of the other classes on either internalising or externalising symptomatology levels. Regarding the total problem score, the 'CPA and conflict' class was the least affected class displaying a significantly lower score than the other classes. The 'Violence, conflict, and psychosocial problems' class and the 'CSA and moderate household dysfunction' class did not differ on any mental health score.

5.7.5 Child background characteristics, abuse-related variables, and class membership

5.7.5.1 Female classes

Table 5.6 reports the multinomial logistic regression analysis for the female sample. The model which contained age, number of abuse settings, number of suspected perpetrators, type of perpetrator (parental), and living arrangement was statistically significant (χ^2 (20) = 437.87,

$p < .001$). The 'CPA and conflict' class served as the reference group as this class was the least affected group in terms of mental health problems.

Age was positively associated with belonging to the 'High PV' class. (OR=1.09, 95% CI = 1.00-1.18). Exposure to abuse across multiple settings was also positively associated with membership of the 'High PV' class (OR=3.06, 95% CI = 1.02-9.16) and with the 'CSA and psychosocial problems' class (OR=2.87, 95% CI = 1.01-8.17). Living in an out-of-home-arrangement was positively associated with membership of the 'High PV' (OR=2.89, 95% CI = 1.49-5.58) and the 'Violence, conflict and psychosocial problems' classes (OR=2.00, 95% CI =1.25-3.21), and *negatively* associated with the 'CSA' class (OR=0.45, 95% CI =0.22-0.93). Abuse by a parent was negatively associated with membership of all classes characterised by CSA; 'High PV': (OR=0.13, 95% CI =0.07-0.26), 'CSA and psychosocial problems' (OR=0.06, 95% CI = 0.03-0.08), and CSA (OR= 0.04, 95% CI = 0.02-0.06). Abuse by multiple perpetrators was negatively associated with the 'CSA' class (OR=0.37, 95% CI = 0.20-0.76).

5.7.5.2 Male classes

Table 5.7 presents the multinomial logistic regression analysis for the male sample. The 'CPA and conflict class' was the least affected group in terms of both victimisation

exposure and mental health problems and served as the reference group in the regression analysis. The overall model was significant (χ^2 (10)= 94.53, p<.001). The analysis, however, showed that the variables age, number of perpetrators, and number of settings were not significant predictors of class membership among the boys. Living in an out-of-home-arrangement was positively associated with belonging to the classes 'Violence, conflict, and psychosocial problems' (OR=3.38, 95% CI = 2.00-5.72) and 'CSA and household dysfunction' (OR=3.62, 95% CI = 1.74-7.52). Abuse by a parent was *negatively* associated with membership of the 'CSA and household dysfunction' class (OR=0.10, 95% CI = 0.06-0.19).

Table 5.6. Multinomial logistic regression between child background characteristics, abuse-related factors, and victimisation class membership (females)

Class	Variable	*B*	OR [95% CI]	Wald *F*	*P*
Class 1: High Polyvictimisation	**Age**	**0.08**	**1.09 [1.00/1.18]**	**4.04**	**.044**
	Number of perpetrators	-0.21	0.81 [0.47/1.39]	0.60	.439
	Number of settings	**1.12**	**3.06 [1.02/9.16]**	**3.98**	**.046**
	Parent perpetrator	**-2.02**	**0.13 [0.07/0.26]**	**33.81**	**<.001**
	Living out of home	**1.06**	**2.89 [1.49/5.58]**	**9.93**	**.002**
Class 2: CSA & psychosocial problems	Age	0.05	1.05 [0.98/1.12]	1.80	.179
	Number of perpetrators	-0.36	0.70 [0.42/1.18]	1.82	.178
	Number of settings	**1.05**	**2.87 [1.01/8.17]**	**3.91**	**.048**
	Parent perpetrator	**-3.06**	**0.05 [0.03/0.08]**	**105.72**	**<.001**
	Living out of home	0.32	1.38 [0.73/2.62]	0.99	.321
Class 3: Violence, conflict & psychosocial problems	Age	-0.00	0.99 [0.95/1.05]	0.00	.957

	Number of perpetrators	-0.08	0.92 [0.64/1.33]	0.19	.666
	Number of settings	0.38	1.46 [0.51/4.18]	0.50	.481
	Parent perpetrator	0.14	1.15 [0.56/2.35]	0.14	.713
	Living out of home	**0.69**	**2.00 [1.25/3.21]**	**8.26**	**.004**
Class 4: CSA	Age	0.31	1.03 [0.97/1.10]	1.02	.313
	Number of perpetrators	**-1.00**	**0.37 [0.20/0.67]**	**10.49**	**.001**
	Number of settings	0.85	2.34 [0.81/6.77]	2.47	.116
	Parent perpetrator	**-3.36**	**0.04 [0.02/0.06]**	**150.07**	**<.001**
	Living out of home	**-0.80**	**0.45 [0.22/0.93]**	**4.64**	**.031**

Note: The reference category is Class 5: CPA & conflict. Significant effects in bold. OR (95% CI*)* Odds Ratio with 95% confidence interval, *P* statistical significance value

Table 5.7. Multinomial logistic regression between child background characteristics, abuse-related factors, and victimisation class membership (males)

Class	Variable	*B*	OR [95% CI]	Wald *F*	*P*
Class 1: Violence, conflict & psychosocial problems	Age	0.04	1.04 [0.98/1.10]	1.41	.236
	Number of perpetrators	-0.19	0.83 [0.56/1.23]	0.88	.350
	Number of settings	0.40	1.49 [0.56/3.97]	0.64	.423
	Parent perpetrator	-0.47	0.62 [0.37/1.06]	3.06	.080
	Living out of home	**1.22**	**3.38 [2.00/5.72]**	**20.75**	**<.001**
Class 2: CSA & household dysfunction	Age	-0.07	0.93 [0.86/1.01]	2.73	.098
	Number of perpetrators	-0.13	0.88 [0.48/1.61]	0.18	.669
	Number of settings	-0.06	0.94 [0.18/4.88]	0.01	.941
	Parent perpetrator	**-2.26**	**0.10 [0.06/0.19]**	**57.12**	**<.001**
	Living out of home	**1.29**	**3.62 [1.74/7.52]**	**11.89**	**.001**

Note: The reference category is Class 3: CPA & conflict. Significant effects in bold. OR (95% CI) Odds Ratio with 95% confidence interval, *P* statistical significance

5.8 Discussion

The primary aim of this phase of the study was to use LCA to identify sex-specific victimisation profiles in the DCC population. Furthermore, this phase sought to understand the variation across profiles in relation to child mental health problems. Finally, the study explored the associations between the different profiles of childhood victimisation and a range of child background characteristics and abuse-related factors.

The findings showed that children assessed in the DCC represent an extremely vulnerable population since (1) all children are referred to the centres on the basis of (suspected) CSA and/or CPA; (2) 85% of the children have been exposed to at least one additional adverse experience in their lives. Almost one-in-three children in the DCC population comes from a home with adult mental illness and almost 40% have been exposed to domestic violence. The extremely high proportion of children exposed to multiple adverse life events corresponds to findings from prior studies on child welfare cases or children investigated for maltreatment (Brown et al., 2019; Pears, Kim, & Fisher, 2008). In a similar sample of German children and adolescents exposed to abuse and neglect, 85% of the children endorsed more than one type of child maltreatment (Witt et al., 2016).

As described in Chapter 2, literature from the ACE and MTM frameworks investigating the associations between childhood harms and adult health status have consistently documented strong links between exposure to childhood harms and a host of long-term adverse outcomes. The high exposure rates among the DCC child population therefore underlines that the DCC population represents a high-risk group of children that warrants special attention in order to support their healthy development. The clinical and political implications of these exposure rates are further discussed in Chapter 7.

In addition to establishing overall prevalence rates of various types of childhood victimisation and mental health problems in the DCC context, this study also identified a range of significant sex differences on victimisation and mental health variables. Girls were more likely than boys to have been exposed to a range of victimisation types including CSA, frequent moving/relocating, living in a household with adult sexual assault of parents or caregivers, and household sexually problematic/transgressive behaviour and were more likely to be placed in an out-of-home-arrangement. Boys in the DCC population, on the other hand, were more likely than girls to have been exposed to CPA. The analysis further indicated that girls endorsed higher levels of internalising and total psychological problems whereas boys were more likely to endorse externalising difficulties. These sex differences, particularly relating to sexual and physical victimisation, and symptomatology are consistent with existing evidence (Blum et al., 2019; Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Dir, Bell, Adams, & Hulvershorn, 2017; Duke, Pettingell, McMorris, & Borowsky, 2010; Foster, Li, McClure, Sonne, & Gray, 2016; Giarratano, Ford, & Nochajski, 2017; Luby, Barch, Whalen, Tillman, & Belden, 2017; Stoltenborgh, van Ijzendoorn, Euser, & Bakermans-Kranenburg, 2011; Thompson et al., 2004). The higher rates of exposure to sexual assault of parents or caregivers in the home and household sexually problematic/transgressive behaviour reported for the girls may be linked to the higher rates of CSA among this group. The co-occurrence of CSA with other types of sexual victimisations, e.g. adult sexual assault, are likely to be indicators of or proxies for more overall sexualised and multiply-abusive home environments (Burgess, Regehr & Roberts, 2013) with the manifestation of various sexually transgressive behaviours affecting different generations. The higher proportion of girls placed outside of the home in the current sample may be linked to the higher rate of CSA among this group since prior research

suggests that sexual abuse is often deemed particularly harmful to children by child protective services (Brown et al., 2019). Additionally, it may be related to the higher mean age of girls, given the increased risk previously observed for adolescents in Denmark (Fallesen, Emanuel, & Wildeman, 2014).

As hypothesised on the basis of existing evidence, a solution with a minimum of three distinct victimisation classes was identified among both boys and girls, with distinct profiles of childhood victimisation identified across male and female children in the DCC population. As hypothesised, females were characterised by more varied patterns of childhood victimisations (five classes) compared to males (three classes). The identification of a five-class solution among girls and a three-class solution among boys is consistent with another sex-specific study of child abuse typologies conducted among youth in Granada and Barbados (Debowska et al., 2018). The findings are also consistent with other studies identifying more diverse histories of childhood trauma and adversity among females (Debowska et al., 2018; Haahr-Pedersen et al., 2020). The findings on different patterns for males and females underline the importance of sex-specific investigations of victimisation exposure since important and unique patterns of victimisations may be obscured and unrecognised if the data is not separated by sex (McAnee et al., 2019).

Among the girls, 40% had been exposed to CSA and an element of sexual victimisation was identified within three distinct classes. Two of the classes (20%) represented broader exposure patterns with the co-occurrence of CSA and additional stressors such as parental mental illness and unemployment indicating various dimensions of environmental stress in the home. The third CSA class (21%) was characterised solely by the endorsement of CSA and an (otherwise) stable home environment. Worth noting on the issue of sexual victimisation among the girls, is that

the three CSA classes differed in relation to the proportion of parental perpetrators. The 'High PV class' (51.6%) and the 'CSA and psychosocial problems' class (29.3%) had higher rates of parental perpetrators relative to the 'CSA' class (21.0%), indicating that the 'CSA' group is likely reflective of a sexual assault class. In addition to the CSA classes, two profiles characterised by exposure to CPA were identified among the girls. In these two classes CPA, with varying degree, co-occurred with other stressors. Altogether, this indicates that the majority of the females (approximately 80%) come from backgrounds characterised by multiple harms.

Among the boys, exposure to CPA was almost a given as approximately 90% of the boys across the different classes had been exposed to CPA. As was the case for the girls, two classes characterised by CPA co-occurred with other types of victimisation. Compared to the girls however, exposure to CSA was substantially rarer among the boys, with only a single class characterised by an element of CSA identified among the boys, accounting for 12% of the sample. Also, unlike the girls, no class characterised by a single type of victimisation was identified among the boys. So, while it appears that one in five girls in the DCC population comes from backgrounds without further victimisations and environmental stressors, all the boys in the DCC context come from homes characterised by some degree of environmental stress. The rate of parental perpetrators was 48.3% in the 'CSA and household dysfunction' class. Across both sexes the rate of parental perpetrators in the CPA classes was high (range: 82.6%- 91.5%) which, as mentioned, is reflective of the legal mandate of the DCC. The sex-specific class-findings align with existing evidence from person-oriented studies on trauma or victimisation typologies, suggesting that females are overrepresented in classes characterised by sexual trauma whereas males are more likely to belong to classes characterised by physical violence (O'Donnell et al., 2017).

That just 20% of the girls and none of the boys in the DCC population fell into classes characterised by a single form of victimisation corroborates the importance of the polyvictimisation concept within the context of the DCC as well as the importance of an ecologically-oriented approach to child maltreatment presented in Chapter 2 (transactional and/or ecological models). The tendency of CPA and CSA to co-occur with various environmental stressors such as unemployment (exosystem) and parental conflict (microsystem) supports that various ecological levels should be considered and integrated when investigating child maltreatment and supports the importance of research taking into account the environmental contexts in which children are embedded. These findings further supports the theoretical movement towards a broader and more inclusive conceptualisation of interpersonal victimisation, with an integration of environmental factors in the victimisation concept as suggested in the MCA scheme. The finding that CPA and CSA tend to co-occur with other victimisations also aligns with the logic of the RFC model Chapter 2, section 2.10.3 suggesting that elements constituting risk caravans are often configured and cluster within the same individual (Layne et al., 2008).

Studies on polyvictimisation or its related constructs using LCA or similar techniques to uncover patterns of traumatic exposures have consistently identified a 'low exposure' (low probability of endorsing the entire spectrum of victimisations) and a 'high exposure' class (high probability of endorsement across the spectrum of different victimisation items). Across the literature the 'low exposure' typology is typically the largest group whereas the 'high exposure' class is the smallest (Contractor et al., 2018; Debowska et al., 2017; Lew & Xian, 2019; McChesney et al., 2015; O'Donnell et al., 2017). That the current study did not identify a 'low exposure' group among the boys or the girls is expected however, given the nature of the sample. The absence of a 'low risk' or 'normative' group has previously been documented in other studies on child and youth

populations investigated for abuse and neglect or other types of high-risk youth samples (Brown et al., 2019; Charak et al., 2019; Witt et al., 2016).

Existing literature with general population samples using LCA or related techniques has repeatedly shown that approximately 4-7 % of samples generally fall into a 'high exposure' or polyvictimisation typology (Bussemakers, Kraaykamp, & Tolsma, 2019; Cavanaugh et al., 2015; Curran, Adamson, Rosato, De Cock, & Leavey, 2018; Davis et al., 2018; Ford et al., 2011; Ho et al., 2020; McCutcheon et al., 2010; Menard, Bandeen-Roche, & Chilcoat, 2004; Miller-Graff, Howell, Martinez-Torteya, & Hunter, 2015). A similar proportion of highly and broadly victimised children was identified in the present study, conducted with a high-risk population, whereby 6.8% of the girls fell into the 'High PV' group. In addition to the highly and broadly victimised group among the girls (the 'High PV' class) the study however, identified a range of additionally multiply-exposed subgroups endorsing broader spectra of victimisations among both male and female children. Among the girls, a multiply-exposed class characterised by concurrent CSA and psychosocial problems was identified. Across both the male and female samples, a profile characterised by the co-occurrence of CPA, domestic violence, parental conflict, and psychosocial problems was also uncovered. Together, these multiply-exposed groups accounted for more than one-third of the respective samples. These rates parallel findings from prior research on trauma and victimisation typologies in other high-risk or clinical samples, which also identified approximately one-third of their samples as belonging to multiply-exposed subgroups (Adams et al., 2016; Dierkhising et al., 2019; Ford et al., 2010; Havlicek, 2014; Rebbe et al., 2017).

Though a relatively stable proportion of extremely and highly-polyvictimised individuals has been identified across general population samples, findings suggest that additional patterns of multiple victimisation are also detectable within particularly high-

risk samples. These findings on different constellations of risk add to the growing body of literature suggesting that polyvictimisation is not a unitary phenomenon and that different typologies and sub-groups of polyvictimisation exist (Adams et al., 2016; Dierkhising et al., 2019; Ford et al., 2010; Greeson et al., 2011). Together, these findings illustrates that polyvictimisation is a highly relevant issue to investigate and account for within high-risk and vulnerable groups, such as the DCC population, and that the distribution of individuals into classes as well as class composition and characteristics in high risk clinical samples tend to differ from normative samples.

Since no standardised instrument such as the ACE-Q (Felitti et al., 1998) or the JVQ (Finkelhor et al., 2005c) was used for assessment of victimisations in the DCC context and since no other study has used the exact same spectrum of victimisation items, it is difficult to make direct comparisons between findings of the present study and other literature. This is a well-established challenge within the childhood maltreatment literature due to various operationalisations of childhood harms, item heterogeneity, and cultural differences in the definition of child maltreatment (Brown et al., 2019; Hansen & Olff, 2018; Witt et al., 2016). Some trends that echo previous findings were, however, identified in the current study.

Firstly, the identification of a class with high endorsement of sexual victimisation and low probability of exposure to all other trauma or adversity types, accounting for approximately 20% of the sample, has been uncovered in prior studies on abuse-co-occurrence spanning diverse samples of undergraduate U.S. students, adolescents from Greenland, and youth referred for trauma-specific services (Berzenski & Yates, 2011; Grasso et al., 2016; Karsberg, Armour, & Elklit, 2014). A distinct sexual trauma class has also been observed in a range of other studies investigating patterns of trauma, however, with substantial variation in class size across studies (2.0%-43.15%) (Armour et al., 2014;

Ford et al., 2010; Vaughn, Salas-Wright, Underwood, & Gochez-Kerr, 2015; Witt et al., 2016) likely due to differences in sample (i.e. high-risk versus general population) and variability in sexual victimisation items. Aligned to the present study the majority of these studies found that the sexual trauma class was strongly associated with female sex.

Second, the tendency of CPA to consistently co-occur with domestic violence and family conflict across classes in the present study is consistent with findings from a wide body of research identifying patterns of co-occurring types of family violence such as adult IPV, CPA, divorce/family conflict, and domestic violence (Berzenski & Yates, 2011; Dierkhising et al., 2019; Grasso et al., 2016; Ho et al., 2020; Keane, Magee, & Kelly, 2016; McAnee et al., 2019; Miller-Graff et al., 2015; Witt et al., 2016). The clustering of different types of family violence found in the present study also aligns with the Co-occurrence framework presented in Chapter 2, Section 2.10.2, which depicts all forms of family violence as closely interrelated; not only in terms of different types of physical family violence such as CPA and adult IPV, but also in terms of lack of emotional regulation that can be passed on across family members via social learning processes or related mechanisms (Hamby & Grych, 2013). That CPA appeared within a constellation with parental conflict but an otherwise stable home life as well as within broader constellations of victimisations, including psychosocial problems, further illustrate that exposure to CPA covers heterogeneous experiences. These findings point to the relevance of the complex transactional and/or ecological models and the PP model presented in Chapter 2, Sections 2.9.4 and 2.10.1 to understand the various paths to and manifestations of child maltreatment. It may be, for example, that in families without psychosocial problems, parental developmental histories and child characteristics (ontogenetic development) interact with a macrosystem-related acceptance of CPA

as a disciplinary method (macrosystem) to foster the occurrence of child maltreatment, whereas in other families exosystem factors such as unemployment via processes of family stress contribute to the occurrence of child maltreatment. These theoretical multifactorial models thus present important frameworks for understanding the various and complex mechanisms that foster the occurrence and co-occurrence of child victimisation in the DCC context.

Finally, the identification of classes characterised by the co-occurrence of intra-familial child sexual victimisation and other types of stressors add to the existing evidence documenting that sexually abused children are likely to reside in adverse environments characterised by additional types of abuse or environmental stressors such as parental illness or battering (Andrews, Corry, Slade, Issakidis, & Swanston, 2004; Friedrich et al., 2001; Murray, Nguyen, & Cohen, 2014).

From a clinical perspective, the different patterns of victimisation suggest that multiple victimisation is the norm rather than the exception among children assessed in the DCC and that multiple victimisation comes in many forms. That a child has been exposed to one type of abuse should consequently raise serious concern about potential additional harms in the life of the child. An increased awareness on multiple types of stressors is therefore important to gain a more reliable understanding of the child's situation, beyond the referral reason or the 'presenting problem' (Hamby & Grych, 2013) which is likely only part of a more complex exposure history. These clinical implications are discussed in greater detail in Chapter 7.

In terms of mental health status, it was hypothesised that classes characterised by high levels and broad spectra of victimisations spanning different levels of the ecology would display higher levels of internalising, externalising, and total problems than

children belonging to less-exposed classes. This hypothesis was overall supported across both sexes. Across all domains the most broadly exposed female class 'High PV' was consistently characterised by poorer mental health status than the two least exposed groups (i.e. the 'CSA' and the 'CPA and conflict' classes). Among the boys, the most broadly multiply-exposed class, characterised by violence, conflict, and psychosocial problems, consistently displayed worse mental health outcomes than the less exposed 'CPA and conflict' group. These findings align with an extensive literature demonstrating that individuals exposed to polyvictimisation are at higher risk for poor mental health outcomes and more severe symptomatology in childhood and adulthood compared to individuals with less extensive victimisation histories (Adams et al., 2016; Álvarez-Lister et al., 2014; Cloitre et al., 2009; Contractor et al., 2018; Debowska & Boduszek, 2017; Dierkhising et al., 2019; Finkelhor et al., 2007b; Ford & Delker, 2018; Grasso et al., 2016; Jativa & Cerezo, 2014; O'Donnell et al., 2017; Rebbe et al., 2017; Shin et al., 2018).

The analysis furthermore uncovered inter-class differences between some of the multiply-exposed groups among the girls. The 'High PV' class displayed higher symptoms scores in both the internalising and total problem domain than the 'Violence, conflict, and psychosocial problems' class. That the 'CSA' class displayed higher internalising and total problem scores than the 'CPA and conflict' class, despite representing a less-extensive victimisation pattern, is reflective of the strong link between sexual victimisation and internalising difficulties established in the literature (Arata et al., 2005; Feiring, Simon, & Cleland, 2009; Gladstone et al., 2004; Muniz et al., 2019; O'Donnell et al., 2017). Interestingly, among the females, the classes of 'CSA and psychosocial problems', 'Violence, conflict, and psychosocial problems', and 'CSA' did not significantly differ on any of the mental health categories despite representing different constellations and spectra of risk. The CSA class consistently endorsed similar

levels of mental health problems as the two more broadly exposed groups. A similar tendency has, however, also been observed in prior research in which children belonging to a sexual trauma subgroup were just as likely as multiply-exposed, but non-sexually-victimised, groups to display post-traumatic symptoms (Barnes, Noll, Putnam, & Trickett, 2009; Grasso et al., 2016).

Taken together, these findings suggest that different constellations of multiple victimisation as well as different types of victimisation carry differential risk for mental health outcomes. Importantly, these nuances would most likely not have been captured by a sum-score approach and corroborates the importance of person-centred approaches in the investigation of childhood victimisation. The findings suggest that CSA in itself, particularly for girls, may constitute a unique victimisation experience with profound and debilitating impact possibly due to accompanied feelings of shame, powerlessness, and stigmatisation (Finkelhor & Browne, 1985; Grasso et al., 2016; Lewis, McElroy, Harlaar, & Runyan, 2015; Muniz et al., 2019; Noll, 2008). Previous studies have documented a unique effect of CSA on adverse mental health and particularly internalising and affective difficulties (Fergusson, Boden, & Horwood, 2008; Karsberg et al., 2014; Lewis et al., 2015) just as the systematic literature review (Chapter 4) demonstrated how CSA, across a range of studies, remained an independent predictor of adverse mental health outcomes after controlling for polyvictimisation. The combination of CSA with other stressors (High PV) represented the most toxic constellation of victimisations among the girls, consistent with previous findings suggesting that the negative effect of sexual abuse is significantly amplified if it occurs in conjunction with other maltreatment types (Debowska et al., 2017). The findings of the current study, however, also suggest that sexual victimisation in itself may play a particularly important role in relation in the

manifestation of mental health symptomatology, and particularity internalising problems, among females.

Results further indicate that while some patterns of multiple victimisation seem to carry differential risk for adverse mental health outcomes among girls this is not the case for the boys. Among the boys, the distinct patterns of multiple victimisation did not differ significantly from each other on mental health outcomes. Being exposed to CPA combined with a range of additional victimisations and environmental stressors was, as expected, associated with higher problem scores relative to being exposed to a less extensive pattern of CPA and conflict.

Together, results suggest that both counts and composition of victimisations should be considered when investigating links between childhood harms and mental health outcomes, given the importance that both the *number* and *constellations* of victimisation as well as the *nature* of victimisations play in the manifestations of mental health problems (Ho et al., 2020; Lanier et al., 2018; Rebbe et al., 2017). That those profiles characterised by the co-occurrence of child abuse and broader environmental stressors displayed the worst mental health outcome lend further support for the need to adopt a broader theoretical conceptualisation of interpersonal victimisation, integrating various dimensions of the child's environment, as presented in the MCA scheme, and considering various ecological levels (as presented in the transactional and/or ecological models in Chapter 2) when investigating child development and maladaptation.

In terms of child background characteristics and abuse-related factors, the hypothesised positive associations between multiple victimisation exposure, age, and number settings, were, for the most part, supported. Age was positively associated with membership of the 'High PV' class' and the number of settings positively predicted

membership to this class and the 'CSA and psychosocial problems' class. These findings are consistent with existing evidence suggesting that polyvictims are more likely to be older and to be exposed to harms across different life settings (Finkelhor et al., 2011a). The expected link between the number of perpetrators and polyvictimisation was, however, not supported. The analysis revealed a negative association between the number of perpetrators variable and the CSA class among the females indicating that females who had been abused by a higher number of perpetrators were less likely to belong to the 'CSA' class relative to the baseline group. This finding further supports the idea that the 'CSA' class primarily describes a sexual assault class characterised by the exposure to a single or few victimisation events committed by a single, and most likely, non-parental perpetrator.

As expected, the analysis also showed that children being placed outside of the home at the time of the assessment in the DCC, regardless of their sex, were more likely to belong to the most highly and broadly exposed classes characterised by at least the co-occurrence of CSA or CPA and psychosocial problems relative to the less-exposed reference groups. Based on the existing data it is not possible to determine if the high rates of victimisation exposure was (i) what led to their removal in the first place or (ii) exacerbated by their removal from the home. Similar links between multiple victimisation and out-of-home placement have been documented in other studies on high-risk child and youth populations (Ford et al., 2011; Horn et al., 2018). Living in a household characterised by abuse, parental unemployment/weak labour market affiliation and adult psychiatric diagnoses has also previously been linked to an increased risk for out-of-home-placement across the literature (Ejrnæs, Ejrnæs, & Frederiksen, 2011; Franzén, Vinnerljung, & Hjern, 2008; Slack, Berger, & Noyes, 2017).

The regression results also showed that both boys and girls who had been abused by a parent were less likely to be members of any of the classes characterised by CSA compared to the baseline groups: the classes depicted by CPA and conflict. Important to consider in this respect however, is the overall difference in DCC case characteristics. As discussed, the DCC manage cases of child physical violence in 'close relationships' only (i.e. CPA) but administer cases with sexual victimisation spanning both intra-familial and extra-familial incidents. Whereas parents account for 82.6% - 91.5% of the perpetrators across the CPA classes, the proportion of parental perpetrators among the CSA classes are lower and the composition of perpetrators in these classes is more varied. It is, therefore, not surprising that children who had been abused by a parent were less likely to fall into the classes characterised by CSA. More informative in this respect is the proportion of parental perpetrators for each class as an indication of the degree of betrayal and violation of trust across the respective classes characterised by CSA.

Taken together the results on the associations between victimisation classes and child background characteristics and abuse-related factors may facilitate an increased awareness in the clinical work of the DCC on certain child related factors and the contexts in which the abuse occurs. For example, when encountering children placed outside of the home it may be particularly relevant to screen for additional victimisations taking place in different settings beyond the referral reason to get a better sense of the full victimisation burden of the child.

Many of the victimisation classes among boys and the girls differed on mental health problems and were differently associated with child background aspects and abuse-related factors, in support of the discriminant validity of the classes. This demonstrates that these empirically derived patterns of exposure to victimisation are not just statistically different but that these differences have clinical and conceptual meaning.

Finally, in relation to BTT (Freyd, 1996), it was hypothesised that victimisations perpetrated by a trusted attachment figure would be associated with poorer mental health status. Given that all classes characterised by CPA had high rates of parental perpetrators, these classes would be expected to display especially poor mental health status. This hypothesis related to the issue of betrayal trauma was, however, generally not supported. Despite having a lower proportion of parental perpetrators relative to the classes depicted by CPA, the female class 'High PV' generally displayed poorer mental health than the CPA classes. Also, the 'CSA' class was more affected in terms of both internalising difficulties and total mental health problems than the 'CPA and conflict' group despite having a substantially lower rate of parental perpetrators. Notably, among the males, the two CPA profiles differed on all mental health outcomes despite both having an high rate of parental perpetrators. These findings thus question the idea that differences in mental health problems can be traced directly back to and explained by the relational aspects of victimisation, i.e. the issue of betrayal trauma, alone.

Overall, the results indicate that other factors, in addition to and potentially interacting with the element of betrayal, such as the *spectrum* and *load* of exposures, *constellations* of victimisations, and the *nature* of victimisations also play significant roles in the manifestation of mental health problems. As described in Chapter 2, Section 2.13.2, the FTD model proposed by Finkelhor and Brown (1985) and Finkelhor (1987) also theorises on the issue of betrayal but additionally recognises how some types of trauma may have a distinct impact through processes of traumatic sexualisation, stigmatisation, and powerlessness that can profoundly disrupt the child's self-concept, worldview, and damage the affective capacities of the child (Finkelhor, 1987). Extant research applying the FTD model has found the betrayal dynamic to be either non-

significant or the least predictive dynamic in relation to adverse psychological outcomes suggesting that other processes should be considered when investigating the associations between victimisation and impaired mental health (Cantón-Cortés et al., 2012; Coffey, Leitenberg, Henning, Turner, & Bennett, 1996; Dufour & Nadeau, 2002; Hazzard, Celano, Gould, Lawry, & Webb, 1995; Kallstrom-Fuqua, Weston, & Marshall, 2004). The additional dynamics such as traumatic sexualisation, powerlessness, and stigmatisation may help explain why sexually victimised girls presented elevated levels of internalising and overall mental health problems in the current study. The results of the present analysis however, most importantly, indicate that the *multiplicity* and *spectrum* dimension of exposures are crucial factors to consider when investigating child symptomatology and that these should be further examined alongside relational issues such as betrayal.

5.9 Limitations

The current phase of the research is not without limitations. First, the DCC were originally established to manage two distinct types of child abuse, CSA and CPA, which is reflected in the data registration procedure. The amount of additional information regarding other environmental stressors and victimisations varies from case to case. To date, the centres are not systematically assessing or screening for additional types of child abuse and adversities which is likely to imply an underreporting of certain types of child victimisation and consequently polyvictimisation. While a national manual is provided to create uniformity in the data across the DCC, differences in the work procedures of the regional centres exist and that different professionals are conducting the data registration may also introduce bias into the registration process (Brown et al., 2019; Dierkhising et al., 2019). Furthermore, the DCC cases are handling suspected incidents of child abuse

and data may therefore include some cases of false positives (e.g., allegations that are investigated but unconfirmed) (Ford et al., 2011). The focus of the DCC is however, not the potential criminal aspect of the case or ultimately to decide if the abuse occurred or not, but rather to assess the reactions and the symptoms of the child in these types of cases.

Second, the victimisation events and the indicators of adverse mental health were registered in a binary response format which hinders investigation of the continuum dimensions of such experiences. As described in Chapter 2, Section 2.11, and in other literature, an issue within the childhood trauma and psychopathology literature is whether childhood trauma and symptomatology are better theorised as binary concepts (presence/absence) or as continuous constructs of exposures that vary along spectra such as frequency, severity, and duration (Achenbach, 2000; Brown et al., 2019; Cicchetti & Valentino, 2015; Curran et al., 2018; Murphy et al., 2007; Newcomb & Locke, 2001). Due to poor data quality for certain variables in the BIT data, such as age at abuse onset, number of abuse acts, and duration of abuse, it was not possible to account for the developmental timing of exposure to victimisations, their duration, or intensity; all of which are important elements of such experiences (Curran et al., 2018; Grasso et al., 2016; Ports et al., 2016; Riem & Karreman, 2018). It is likely that factors such as developmental timing and the number of victimisation events (i.e. chronicity) also play an important role in regard to the type and level of symptomatology displayed (Adams et al., 2016; Briere & Jordan, 2009; Dierkhising et al., 2019; Hodges et al., 2013; Lätsch et al., 2017).

Third, the current study employed two overall categories of CSA and CPA, each spanning a wide array of acts with varying degree of severity. This variation in subtypes is not captured by the current analysis. Research suggests that further distinct profiles of

sexual victimisation and violence subtypes exist and that these typologies carry differential risk for mental health outcomes (Logan, Shannon, Cole, & Walker, 2006; Shevlin et al., 2017). Simply categorising an individual as being sexually or physically abused may therefore be too simplistic. An examination of physical and sexual abuse subtypes was conducted as part of the current study which revealed that quantitative differences in severity, but not qualitatively different patterns of subcategories, existed. Considering the abovementioned, a broader analytical approach including overall abuse categories in combination with other domains of the child's ecology was considered more valid and informative and was consequently chosen.

Fourth, although research has established that females tend to have more varied trauma histories, the occurrence of more complexity and variation in exposure patterns among females found in the current study may also, to some degree, be due to the larger sample size among the females with more power to detect and crystallise distinct subgroups. The difference may also be related to the higher overall rate of CSA among the girls since existing research suggests that females who have been exposed to child sexual abuse are more likely to report additional traumatic events in childhood (Banyard, Hamby, & Grych, 2017; Cavanaugh et al., 2015). In terms of CSA, the 'CSA and psychosocial problem' class did not differ significantly from the other CSA classes on any mental health outcome, calling into question the discriminant validity of this class.

Fifth, the use of cross-sectional data in the current study data hinders inferences about causality. Extant research implies that victimisation and mental health symptomatology are complexly interrelated, and that causality may be bi-directional (Ford et al., 2011). According to the aforementioned PP model (Chapter 2, Section 2.10.1) and the ecological/transactional model of child maltreatment and development (Chapter 2, Section 1.9.1), certain child behaviours or traits may also increase the risk for

victimisation (Finkelhor et al., 2009b; Lynch & Cicchetti, 1998). Psychopathology may, therefore, serve as a risk-factor for victimisation and polyvictimisation (Cuevas, Finkelhor, Clifford, Ormrod, & Turner, 2010). Future longitudinal research is warranted to estimate and understand the direction of associations and the actual effects of childhood victimisation on mental health problems (Dierkhising et al., 2019). Even though it was not possible to determine causality and the temporal ordering of victimisation experiences and psychological outcomes in the existing BIT data material, a strength of the analysis remains that both victimisations and mental health problems were measured within childhood, unlike most of the ACE literature which is based on adult samples with retrospective assessment of childhood stressors and current measures of mental health (Garcia, Gupta, Greeson, Thompson, & DeNard, 2017) .

Sixth, other victimisations or adverse experiences that are known to be important correlates of child mental health such as emotional abuse/maltreatment, physical and emotional neglect, dating violence, and peer victimisation/bullying (Finkelhor, Shattuck, Turner, & Hamby, 2013; Maguire-Jack et al., 2020) are not registered in the DCC context (at the time the data was accessed) and subsequently not included in the analysis. Since April 2019, the DCC have registered data on emotional abuse. Research has extensively shown that emotional abuse tends to co-occur with both physical and sexual abuse (Aebi et al., 2015; Armour et al., 2014; Blum et al., 2019; Brown et al., 2019; Clarke et al., 2016; Davis et al., 2018; English, Thompson, White, & Wilson, 2015; Hazen, Connelly, Roesch, Hough, & Landsverk, 2009; Kim, Mennen, & Trickett, 2017; Menard et al., 2004; Merians et al., 2018; Pears et al., 2008). Furthermore, research suggests that emotional abuse may be just as or more harmful to child mental health as other types of victimisations such as sexual and physical abuse (Lätsch et al., 2017; Muniz et al., 2019; Varese et al., 2012) and that the combination of these abuse types is associated with an

increased risk for poor mental health outcomes (Berzenski & Yates, 2011; McGee, Wolfe, & Wilson, 1997; Muniz et al., 2019; Spinazzola et al., 2014; Wolfe & McGee, 1994). Future LCA analysis conducted on the DCC data should therefore explore how emotional abuse co-occurs with other types of victimisation and stressors and investigate how these complex constellations of victimisation are associated with child mental health.

Seventh, one of the recommendations for future research presented in the systematic literature review on polyvictimisation and psychopathology (Chapter 4) concerned a need to consider the child's development stage since different developmental stages carry differential risk for certain types of victimisation exposures (Finkelhor, 2008; Hamby & Grych, 2013). To account for the developmental aspect, the LCA analysis could have been performed separately for different age groups, however, this aspect was partly accounted for by the inclusion of age as a covariate in the regression models. Since age was only significantly associated with membership of one class among the girls and none of the classes among boys, and since larger sample sizes are preferred to obtain unbiased fit statistic in LCA (Contractor et al., 2018), a further age-based separation of the data was not conducted as part of this study.

Eighth, the current study focused on investigating of the negative outcomes associated with childhood victimisation but less is known about the role of resilience and protective factors for mental health despite victimisations and polyvictimisation (Banyard et al., 2017; Bethell et al., 2017; Brown et al., 2019; Poole, Dobson, & Pusch, 2017). Finally, the findings from the analysis may have limited generalisability to general child and adolescent populations due to the clinical context and the use of a particularly high-risk child sample (Bethell et al., 2017; Dierkhising et al., 2019; Muniz et al., 2019).

5.10 Conclusion

In fulfilment of the second research objective, the current phase of the study yielded a number of important findings. First, greater variation in victimisation exposure was found amongst girls compared to boys in the DCC population. Second, different profiles of multiple victimisation exposures were uncovered, suggesting that polyvictimisation is a multifaceted and complex phenomenon and that both accumulation, constellation, and nature of victimisations should be considered when investigating child maltreatment. Third, a substantial number of children fell into classes characterised by high levels and broad spectra of exposures highlighting the importance of the polyvictimisation concept within high-risk and vulnerable child populations such as the DCC population. Fourth, the victimisation classes differed on mental health outcomes and were differently associated with child background factors and abuse-related variables, in support of the discriminant validity of the classes. Overall, differences in mental health status were most commonly identified between the most broadly exposed groups (depicted by extensive and co-occurring victimisations) and the least exposed groups (characterised by one or few victimisation endorsements). However, the findings also suggest that CSA plays an important role in relation to mental health problems among females. Findings also implied that the *multiplicity* and *spectrum* dimension of exposures are particularly crucial factors to consider when investigating child symptomatology alongside relational issues such as betrayal. Finally, an isolated focus on or a 'siloed approach' to a single referral issue (i.e. CSA or CPA) fails to capture the full range of exposure histories spanning different domains of the child's ecology, and calls for different assessment, treatment and intervention efforts going forward. Since polyvictimisation is likely to persist across time and developmental stages (Dierkhising et al., 2019; Finkelhor et al., 2007b; Grasso et al., 2016), and since exposure to multiple victimisation increases the risk for deleterious

health and social outcomes, an early identification of these high-risk children is warranted in order to protect them against further victimisation and to support their healthy development.

Chapter 6: Polyvictimisation and practice - Applying and implementing knowledge on multiple childhood victimisation in the DCC

6.1 Chapter introduction

Research has repeatedly stated how knowledge on different profiles or patterns of victimisation is useful, helpful, and directly applicable for clinicians working with cases of child abuse (O'Donnell et al., 2017; Swartout & Swartout, 2012), but less is known about *how* this type of knowledge is useful, applicable, and relevant from clinician's own perspectives. This study part thus addresses this research gap by directly involving clinicians working with cases of child abuse to address the third objective of the research, through answering the final set of research questions:

(1) How can the results from objectives 1 and 2 best be integrated into the interdisciplinary work of the DCC to strengthen future case management of multiply-victimised children?

(2) Which recommendations for future work on the multiplicity issue of childhood victimisation within the DCC setting can be derived from the perspectives of DCC professionals themselves?

6.2 Study design and methods

This final phase of the research was carried out as a qualitative study applying different types of participatory methods. Since the research questions pertain to *how* the results of Chapters 4 and 5 can be integrated into future work practices of the DCC and *what* recommendations can be made from the perspectives of the DCC employees, participatory, qualitative approaches were deemed particularly advantageous, given their

ability to explore multifaceted views, practices, experiences, and beliefs of individuals (Gill, Stewart, Treasure, & Chadwick, 2008). Though qualitative research spans a wide range of different methodological perspectives and epistemologies (del Rio Carral & Tseliou, 2019), qualitative research is generally perceived as an approach that recognises knowledge as contextual and provides an in-depth and multifaceted understanding of real-world phenomena from social actors' own perspectives, rather than aiming to obtain an objective and independent truth (del Rio Carral & Tseliou, 2019; Järvinen & Mik-Meyer, 2005; Korstjens & Moser, 2017; Sale et al., 2002). Specifically, participatory action research (PAR) influenced qualitative methods were used to engage local perspectives and to stimulate the co-creation of knowledge (Cornwall & Jewkes, 1995), in the form of focus group discussions (FGDs). Reflexivity, transparency, and a critical appraisal of the research process itself and the active role of the investigator in the research practice is further highlighted across the literature as crucial aspects of conducting qualitative research (Bengtsson, 2016; Mason, 2002) and I made a conscious effort to engage in an active and critical reflexivity throughout the study phase (see for example Section 6.3.1.1 in this chapter).

6.2.1 FGD method

FGDs are defined as a qualitative group discussion method where a number of participants with relevance to the research topic discuss a range of selected themes (Demant, 2006). Typically, the discussions are based on an interview/discussion guide or questioning route that is linked to an overall research aim or research questions that guides and frames the discussion (Massey, 2011). The FGD method was chosen as it is considered particularly relevant for exploring opinions and attitudes within a social setting and facilitates an examination of how knowledge and ideas develop, operate, and are negotiated within cultural and social contexts (Halkier, 2010; Marcella, 2018). Hence,

a distinctive feature of the FGD is the group dynamic and social interaction aspects that facilitate an investigation into differences in participant perspectives (Rabiee, 2004). The FGD method is deemed particularly suitable for applied research investigating experiences and conceptual understandings of stakeholders, social and structural norms, and contextually and culturally embedded understandings (Massey, 2011). Likewise, FGDs are considered especially relevant for exploring and answering research questions revolving around the *how* term (Demant, 2006). In this case, the FGD methodology was used to investigate the usefulness of the knowledge produced in Chapters 4 and 5 within a social group setting that mirrors the actual cross-disciplinary and team-oriented work practices of the DCC.

6.2.1.1 Self-moderated FGD method

Self-moderated FGDs (Marcella, 2018) implies that the investigator is not moderating the group discussions. Instead, every group is asked to nominate a person responsible for reading the questions in the discussion guide to the group and the participants themselves subsequently moderate the discussion. The self-moderated FGD is conceptualised by Marcella (2018) as an experimental and explorative method that enables naturalistic discourse, reduces the impact of the researcher in the discussion process, and allows participants to articulate their perspectives in their own style and tone (Marcella, 2018). Specifically, the method is recommended for explorative research where open, unrestricted, and free-flowing participant dialogue is sought (Marcella, 2018). The self-moderation method thus highly aligns with the principles of IR and PAR since it centres on and directs the attention towards the expressions of local and 'end-user' voices, opinions, and interpretations.

Since the objective of this phase of the thesis was to understand *how* findings can be used and integrated into future work processes in the DCC from the practical employee

perspectives, a method facilitating a free-flowing dialogue with expressions of local and practical perspectives is considered a particularly appropriate methodological framework. The choice of the self-moderated FGD method was further supported by the circumstance that I was based within one of the DCC (CCCR) for two years of the research project and had therefore engaged with centre employees on a daily basis. Also, children centre employees from other regional centres had previously met and engaged with me on different occasions, e.g. a national children centre conference. The self-moderated FGD was therefore deemed the optimal research method to reduce the potential issue of 'social desirability', or the tendency of informants to making positive impressions to please the investigator based on previous experiences and interactions (Collins, Shattell, & Thomas, 2005), and to create an honest and unrestricted discussion forum focusing on the usability of findings from a practical perspective. Generating an entirely free-flowing and naturalistic discussion was, however, neither accomplished nor aspired since the FGDs were conducted with the aim to investigate certain research questions and were based on an interview/discussion guide that framed and structured the discussion.

6.2.2 FGD interview/discussion guide

The FGD questions and structure were inspired by the work procedure outlined by Mason (2002). First, the 'big ideas', or the overall research questions, were operationalised and broken down into themes and concepts of interest. These two parts represent the level of '*what you really want to know*'(Mason, 2002, p.70). Next, these themes and concepts were further converted and operationalised into concrete discussion questions. The list of final of questions were discussed with the manager of the CCCR to ensure the contextual and practical relevancy of the questions. Finally, the FGD questions were tested during the first pilot workshop.

6.2.3 Participants and procedures

Participatory workshops were conducted with children centre employees across the five regional DCC. A total of six participatory workshops were conducted nationally spanning 7-16 participants. The workshop method was chosen since it facilitates the combination of data presentation, group discussions, and participatory reflection exercises in a social group setting as one continuous process. Furthermore, the workshop format fostered engagement of participants and collaborative discussions (Ahmed & Mohd Asraf, 2018; Lain, 2017) between the DCC employees and myself, aligned with the principles of stakeholder engagement emphasised by IR and PAR.

The first workshop was held in August 2019 and served as a pilot workshop. Here, the original workshop design and materials were tested and subsequently revised and adjusted based on this preliminary experience of disseminating the results and engaging employees in participatory exercises. For example, the time frame for each workshop activity was adjusted based on the preliminary experiences. Following the pilot workshop, five participatory workshops were conducted between September and December 2019. Each workshop lasted approximately 2.5 hours. Table 6.1 illustrates the workshop content and components. Where possible, the administrative personnel and managers of the centres also participated in the first part of the workshop (i.e. dissemination of the results of Chapter 5) across the centres.

Table 6.1. Overview of participatory workshop design

Part	Time frame	Workshop element	Participants	Guiding question	RQ
1	70 min.	Presentation of the quantitative results from Chapter 5 (&4)	PI, DCC employees, managers, and administrative personnel	*What do the data tell us in relation to polyvictimisation?*	RQ1
2	45 min.	Self-moderated FGDs	DCC employees	*How do employees make sense of the data? How can they use and apply the findings in various aspects of their work? What knowledge is lacking from a practical perspective?*	RQ1&2
3	20 min.	Plenary discussion	DCC employees and PI	*What was discussed in the FGDs (i.e. Part 2) and how do the different groups react to the responses of the other groups?* (Potential new insights and reflections generated from overall group discussion)	RQ1
4	20 min.	Employee group exercise: creation of recommendations for future work practices in relation to the polyvictimisation concept, final wrap-up	DCC employees (and PI for final wrap-up)	*How can aspects of the findings be concretely translated into recommendations for future work with the polyvictimisation concept?*	RQ2

Note: PI: Principal investigator, RQ: research question for study part 3

In total, 13 FGDs were conducted across the six workshops. Each group consisted of 3-5 persons randomly assigned to a group. FGDs were however, comprised of a mixture of psychologists and social workers to reflect the real-life cross-disciplinary work procedures characteristic of the DCC work. All FGD participants were female. Centre

management participated in the pilot workshop but were excluded from the subsequent FGDs to ensure that employees felt free to voice their perspectives and experiences without any structural, economic or political concerns impacting the discussions[8].

6.2.4 Workshop content and components

The workshop design consisted of four components. In the first part of the workshop, I fed back the quantitative findings from Chapter 5 (and 4) to the DCC employees. First, the concept of polyvictimisation and related constructs were presented, the LCA method was described in a visually accessible and clinically relevant style (see Chapter 3, Section 3.5.1), followed by the presentation of the various victimisation profiles identified in the DCC male and female data samples, respectively. The associations between the profiles and mental health problems (informed by Chapter 4) were presented and finally, the associations between victimisation profiles and child background characteristics and abuse-related factors were shared. Employees were encouraged to ask questions throughout the presentation and additional time was given at the end of presentation where participants were invited to ask questions or comment on the results. The purpose of this was therefore to engage local knowledge, a critical reflection on the findings, and co-interpretation of the data.

[8] The centre managers will however, be included in a later stage. This final and more implementation-oriented step will include a presentation of the list of recommendations to the DCC managers and to engage them in a prioritisation exercise to bring the recommendations forward for implementation in the DCC context to explore which recommendation are feasible to potentially implement within the structural and political framework of the DCC. This final implementation step is however, beyond the scope of the current thesis.

Following the presentation of the data, employees were divided into groups of 3-5 participants for FGDs. Each group received an interview/discussion guide with six questions (see Table 6.2). As mentioned, the FGDs were self-moderated and each group was asked to nominate a person responsible for managing the interview guide and one person responsible for managing the Dictaphone (audio recording). The FGDs lasted between 22-43 minutes and were conducted in Danish. Next, all groups reconvened to engage in a plenary session. In this part of the workshop, the groups were asked to briefly present the highlights of their FGDs which enabled an overall group discussion and inter-group debates. Finally, the groups engaged in a participatory exercise with the objective of formulating a set of 3-5 recommendations for future work related to the concept of polyvictimisation within the DCC context.

Table 6.2. FGD questions, conceptual theme, and overall research question

FGD question	Themes and concepts	Research question (study part 3)
How are the results regarding the different victimisation profiles relevant to your work as an employee in the children centre?	Relevancy applicability, engagement of local understandings, and co-interpretation of the data, top-of-mind reflections.	1
Which parts of the presented knowledge are particularly relevant to the professional work, the profiles, risk/background factors, the psychological symptoms, all or which parts and why?	Specification of usability, applicability, practicability, local understandings and co-interpretation of the data from different professional standpoints.	1
How can you use this knowledge in your future work, for example in relation to assessment, sessions with children and parents, writing of final reports or other?	Practical usability of the knowledge components in the concrete DCC work tasks. Practical and clinical translation of findings.	1
How could the presented results be relevant in relation to the cross-sectoral work processes in the DCC, for example cooperation with police,	Contextual relevancy, usability in the interdisciplinary and cross-sectoral context, the relevancy of the polyvictimisation concept across sectors.	1

municipality social workers, and medical personnel?		
What knowledge is lacking in relation to the investigation of polyvictimisation in cases from the DCC?	Engagement of local knowledge and perspectives. Co-interpretation of data. Lacking knowledge or actions in regard to working with and investigating the polyvictimisation concept from the perspectives of practitioners. Potential discrepancies between practical and research interests and foci.	2

6.3 Analytical strategies

The 13 FGDs were audio-recorded and transcribed verbatim in Danish. During the analysis, the relevant quotes were translated into English. In line with existing recommendations, I first transcribed the FGDs to initiate immediate familiarisation with the data as the first important step of data analysis (Bailey, 2008). Every group (same group as in the FGDs) noted 3-5 recommendations in the participatory group exercise and these recommendations were subsequently typed into a single document for analytical purposes. Notes I had written during the plenary discussions were also used when creating the final list of recommendations. Two different types of analytical techniques, thematic analysis and content analysis, were applied to analyse the FGD material and the recommendation material, respectively. Both sets of data materials were analysed using NVivo (Version 11).

6.3.1 Thematic Analysis (TA)

TA is method used to understand various aspects of a research topic by identifying, organising, analysing, and reporting patterns of meanings (themes) across data materials (Braun & Clarke, 2006, 2012; Vaismoradi, Turunen, & Bondas, 2013). Here, a theme is conceptualised as an entity that captures something in the data that is important and

meaningful in relation to a specific research focus and interest (Braun & Clarke, 2006, 2012).

TA, however, implies more than sorting and descriptively summarising the data, since the method also encompasses an element of 'sense making' by reflecting on the data patterns or linking the data back to certain assumptions, hypotheses or theories (Maguire & Delahunt, 2017). According to Braun and Clarke (2006, 2012) TA is a method rather than a methodology, which implies that TA in itself is not epistemologically restricted but rather is a flexible method that can be applied across various theoretical and epistemological positions, including pragmatism.

Two central concepts in TA are semantic and latent themes or levels. The semantic component denotes the explicit manifest level, e.g. a directly observable individual statement in the data, whereas the latent theme denotes a more indiscernible interpretative level of the data (Braun & Clarke, 2006). TA often addresses both manifest and latent aspects of the data (Vaismoradi et al., 2013). This understanding of and operation with different analytical levels aligns with the assumptions of pragmatism and the acceptance of multiple realities and the recognition of the existence and importance of both the objective natural and physical world as well as the socially constructed world of human institutions (Johnson & Onwuegbuzie, 2004). Given its status as a method rather than an epistemologically bounded methodology, TA can be performed in both an essentialist and experimental fashion, where the focus is to report any manifest and obvious semantic meanings in the data, but which can also be conducted from a critically-oriented constructivist position. The latter being concerned with identification of latent meanings, discourses, and assumptions that underlie the apparent manifest statements (Braun & Clarke, 2006, 2012). TA can be performed inductively or deductively or as a combination and can be theory or data-driven (Braun & Clarke, 2012).

According to Braun and Clarke (2006), what is particularly important when performing TA, given the methodological flexibility and freedom, is transparency and reflexivity in the analytical strategy and process. To achieve this, they recommend making the assumptions, the epistemological standpoint, and the analytical choices clear and explicit. Central to TA is also the understanding of the researcher as an active agent that interacts with the data and the notion that themes are not naturally and independently emerging from the data but are actively constructed by the researcher and formed by certain research interests and questions (Braun & Clarke, 2012).

Another key feature in TA is the concept of the thematic map, which implies an overall visual presentation of the data patterns and their relations (Braun & Clarke, 2006; Vaismoradi et al., 2013). The outline of different thematic maps is intended as a means to illustrate the analytical process and to ensure transparency in the analytical process. In order to foster the important element of transparency in the analytical process (Braun & Clarke, 2006), the following section outlines the type of TA conducted in the current study, presents the different procedural codes and thematic maps developed as part of the analysis, and describes the different analytical steps taken in the data analysis.

6.3.1.1 The application of TA on DCC FGD data

The TA approach applied in the current study was primarily data-driven, inductive, and 'bottom up'-oriented since the aim was to explore how employees make sense of the quantitative results and how the findings from the previous phase of the study can be integrated to guide future work practices of the DCC. The analysis is thus concerned with local employee perspectives and experiences rather than testing a theory or predefined hypotheses. Conducting a purely inductive analysis is, however, an analytical illusion since the researcher always brings some level of pre-existing conceptual understanding and assumptions to the study (Braun & Clarke, 2012). For example, one 'pre-

understanding' (Bengtsson, 2016) of the researcher that guided the current analysis was a critical view of the BIT data among some of the DCC employees, which I also observed during engagement with DCC employees on different occasions. These prior experiences directed an increased awareness towards the issue of data underreporting across FGD transcripts. Theoretically, the analysis was also partly shaped by the discussions of Hamby and Grych (2013) on the more practical challenges of working with the issue of victimisation co-occurrence in relation to intervention and prevention work in social service agencies. In practice, the analysis was thus characterised by a movement between theory and practice and induction and deduction, again aligned with the assumptions of the pragmatic research paradigm underpinning the study (Brierley, 2017; Morgan, 2007).

The current TA implied both semantic and latent levels or themes. As an example, the 'Applicability, Relevancy and Usability' theme is primarily concerned with manifest expressions whereas the 'Complexity and Mandate Dilemma' theme (see result and discussion sections) is an example of a more latent oriented theme that is linked back to and analysed in relation to the theoretical Co-occurrence framework by Hamby and Grych (2013) and other related literature in the discussion section of this chapter.

A six-step approach for conducting TA developed by Braun and Clarke (2006) was applied to the FGD materials. These steps are briefly outlined below in relation to the current study to ensure transparency of the analytical process. The analytical steps are described with reference to the work by Braun and Clarke (2006, 2012) and the applied work of Maguire and Delahunt (2017).

The first step of TA concerns a **familiarisation with the data**. In this phase the 13 FGDs were transcribed, read, re-read and a list of initial ideas, first impressions, and notes were created. The next step was the phase of **generating initial codes.** These were terms and concepts that described or touched upon an important features of the DCC work,

including both direct features such as collaboration with other sectors but also more indirect aspects such as the legal framework underpinning the DCC work that could be of importance when creating recommendations for future work practices. During this phase, codes were created as labels and the data was organised by systematically coding interesting features across the FGD data. Figure 6.1 illustrates a preliminary code map that was created across the first two steps of this process, applied as the preliminary coding process. The third coding step involved **searching for themes**. In this step, different codes were combined and sorted into different themes based on similarity and connectedness. As an example, various codes dealt with the issue of usefulness (e.g. 'usefulness assessment' and 'usefulness final report'). These were therefore collated under an overall common theme of 'Usability, Relevancy, and Practicability'.

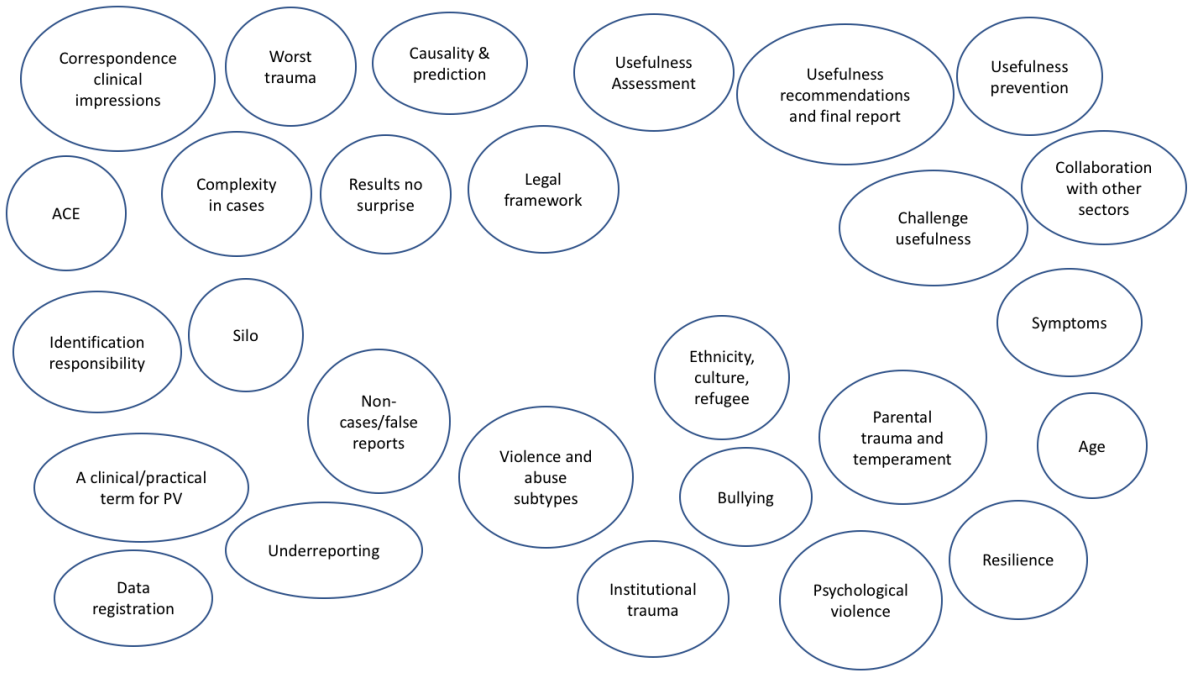


Figure 6.1. Initial procedural codes

Next, was the phase of **reviewing themes**, where the formulated themes were re-checked in terms of how they worked in relation to the codes extracted. Themes were modified,

and sub-themes were created. For example, the theme 'Usability, Relevancy, and Applicability' was generated as an overall theme with various subthemes. At this stage, the relevancy of the themes was also verified in relation to the research questions, i.e. does the theme generate important knowledge in relation to answering the research questions? Following this was the phase of **defining and naming themes**, where clear definitions were generated and titles for each theme were identified. A procedural and a final thematic map are presented in Figures 6.2 and 6.3. The last step involved **producing the report**, where extracted examples were located across the FGDs to support and illustrate themes. The analysis and its emergent themes were also discussed in terms of the research question and the extant literature. In line with existing recommendations (Braun and Clarke, 2012), quotes were used in theme titles to represent participants' conceptualisations and language, consistent with the importance of representing local voices as emphasised in IR and PAR.

Although the above-presented outline of the analytical steps gives the impression of a relatively linear process, in practice the analysis was more dialectical with movement back and forth across the different steps.

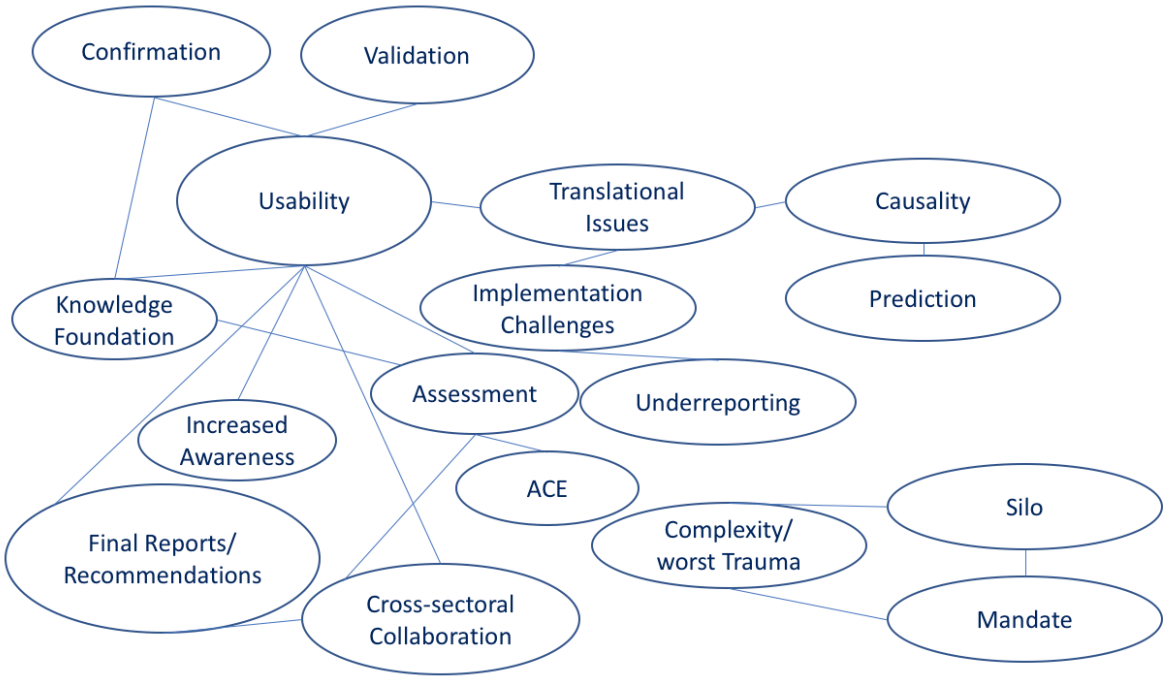


Figure 6.2. Preliminary thematic map

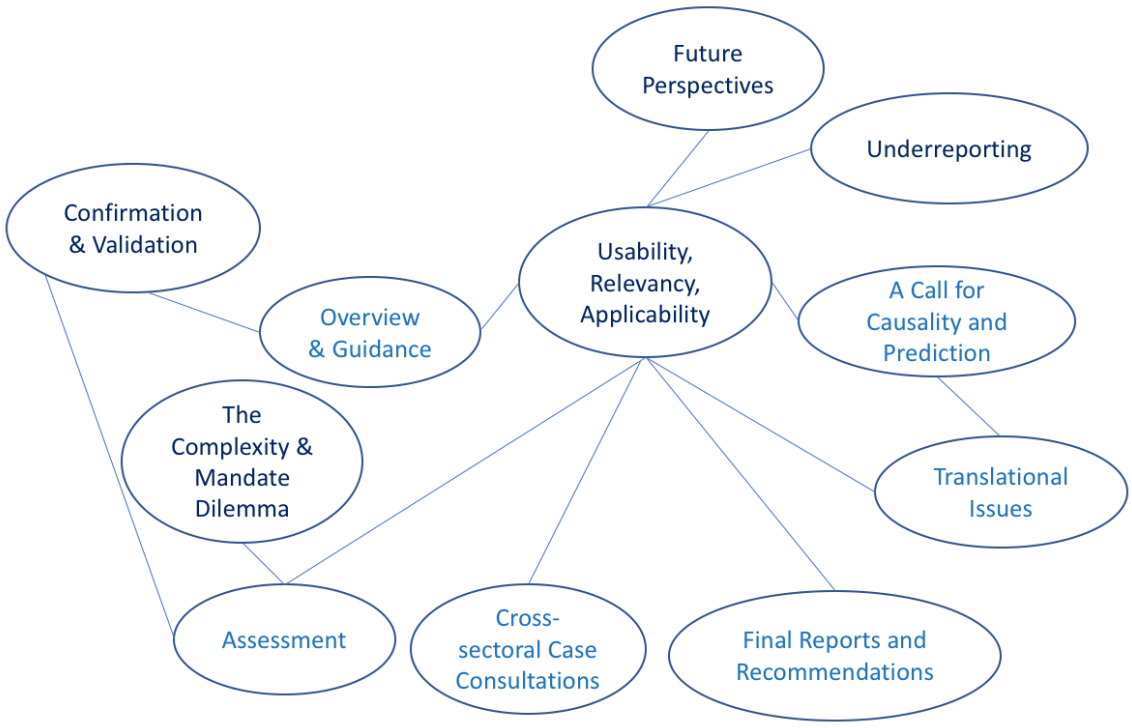


Figure 6.3. Final thematic map

Note: Dark blue text indicates main themes. Light blue text indicates subthemes.

6.3.2 Content analysis (CA)

The recommendations for how to work with the concept of polyvictimisation within the DCC context were analysed using CA. The overall aim of CA is to organise, generate meaning, and produce conclusions based on these arrangements of the data and CA can be used to analyse various different types of written text materials (Bengtsson, 2016). CA shares a great amount of similarities with TA as both methods are described as flexible and non-epistemologically circumscribed techniques that can be performed within different research traditions (Bengtsson, 2016; Braun & Clarke, 2006). Both forms of analysis are furthermore concerned with the act of cutting across data to identify patterns and tendencies in the data materials (Vaismoradi et al., 2013) and both techniques distinguish between manifest (the obvious and visible features in the texts) and latent levels (the deeper structures of underlying intentions in text). CA can be performed in a merely quantitative fashion concerned with the surface of the text and counts of content (a *'how many'* or frequency- oriented logic) but can also be performed from a more qualitative-oriented position with a focus on content interpretation (Bengtsson, 2016). The researcher should accordingly decide and clarify if the type of CA applied is a manifest-oriented analysis (broad surface structure) or a latent analysis (focus on the deeper structure with larger degree of interpretation) (Bengtsson, 2016).

The current CA was conducted inductively with a focus on manifest data aspects. i.e. concerned with identifying surface meaning and obvious tendencies recommendation materials formulated across the DCC employee groups. The logic of the analysis was therefore data-driven and frequency-oriented rather than focusing on analysing the deeper structures and latent meaning of the text. This approach was chosen as the analysis served to identify common content across the different employee groups and to get a sense of the common preference for specific recommendations such that the results generated as

a part of this process is applicable to the DCC as on overall organisation and are therefore relevant across different regional centres.

As described in Chapter 3, I collected all of the employee created recommendations (hand-written) into a single document. Next, I read the text document and created initial content codes to form a coding scheme. These codes were created based on inductive approaches and were not guided by any theoretical framework. Initial codes were for example 'parent', 'tool', and 'ethnicity'. Next, certain codes were collapsed and merged into overall content categories such as 'Data' or 'Assessment'. A final coding list with more general and overarching conceptual code categories and an explanation of each of the categories was subsequently created and the final categories were checked against the research questions to ensure their relevancy in relation the research objective. A visual code and category table with the application of different colours do demarcate and illustrate the different categories was created to facilitate transparency as part of the categorisation process (see Appendix H). The raw list of recommendations for how to work with the concept of polyvictimisation in the DCC going forward, derived from the participatory exercise data is presented in Table 6.3. The resulting list of recommendations, representing the most endorsed recommendations across the DCC, are presented at the end of the discussion section.

6.4 Results

The following section presents the themes derived from the TA and CA. Of note, the numbering of the themes in the TA does not indicate priority.

6.4.1 Results FGD analysis

6.4.1.1 Theme 1: Confirmation and Validation – *"It sort of confirms what we already knew and what we see in our work, it just gives some clear data on it"*

Participants repeatedly described that the presented results were not surprising. Across the FGDs participants articulated that the findings on the different victimisation profiles and their associations with the external factors such as mental health problems to a large extent corresponded to the clinical experiences and inclinations of the DCC employees. What was considered novel however, was the act of classifying the children and '*getting the impressions on paper*'. The issue of victimisation co-occurrence that characterised many of the identified profiles and the clustering of distinct types of victimisations were well-recognised by the employees:

> *At least I think I can recognise that this is how it is related, especially those where there are several things that co-occur and play together. For example, profile 1 among the girls. Sexual abuse, violence, and dysfunction. The kind of broad exposure. It gets underlined, that this is often the case. That it often occurs along the side of something else. (participant, group 1)*

Across the FGDs, employees described how the findings confirmed what the employees had already observed as part of their practice and employees recurrently expressed how they already consider various different types of stressors when working with suspected cases of child abuse. The employees also expressed recognition of different types of cases and families encountered in the children centre work:

> *But overall, I think that we already think in these types of profiles and that we know from our clinical work that there are different types of families and that we eventually recognise them. We know that if we come into a family where the mother and father are war-traumatised, then the risk of physical violence is very high. We know this from other research and we know this from our clinical work. So that it is now being documented as a group with high levels of conflict, mental illness of the parents, violence against the children and perhaps also weak labour market attachment, at least this is a group where I think many of our refugee families are located. And there are also some of the 'classic' Danish families,*

with like, poorly functioning parents who have been in the system for many years, who have difficulties entering the labour market and may have a divorce conflict, fight with each other, can't manage living together, so, we know these types of families well and we can recognise them in this material. (participant, group 1)

Another aspect that was articulated across the FGDs coinciding with the clinical experiences and as an aspect of 'validation' of participants' clinical perceptions was that the data results provided a form of '*documentation*', '*statistical underpinning'*, and external validation of their practical experiences. As one participant expressed:

I am more surprised when I see a child who has only experienced one thing, so in that way it is not surprising results, but it is good to have it validated by others, to getting one's work validated outside one's work. (participant, group 5).

Hence, the presented knowledge on the quantitative victimisation profiles and their associated factors were recognised by DCC employees. Across the FGDs it was further articulated how the presented knowledge on the victimisation profiles were perceived as '*a knowledge foundation to stand on*' for employees and results were described as further '*supporting*', and '*qualifying*' their clinical impressions, '*adding weight'* to the practical clinical evaluations of DCC employees. For example, one employee described how the quantitative findings could act as a foundation upon which one can build more confidence in one's assessment:

I think that if we ask about these things we can pass it on. We need to dare to say something more based on our assessments. We can say more because this brings some weight to it. There is some knowledge now that can actually be benefitted from and by asking about it we can also pass it on, so we are sure that the focus is kept, that these are often very burdened families. (participant, group 10)

Employees described how the victimisation profiles and their associated child background characteristics and mental health outcomes represented a '*more well-founded knowledge'*, and as a means to '*getting numbers on the impressions'*. Employees also described how the presented findings provided a '*concrete language'* and a '*terminology*' for articulating, describing, and addressing the various co-occurring adverse factors that are often observed in the life of a child.

One aspect of the analysis that did not correspond to or confirm the participants' clinical impressions however, was the average scores of externalising, internalising, and total problems presented for each of the different victimisation profiles. Debates on these scores were widely discussed across the FGDs, as the general clinical impression was that children encountered in the DCC have a more complex symptom picture with higher symptom scores than the results suggested. As one employee expressed: *I think those symptom rates were interesting. The rates were however, lower than I expected. That was surprising to me. (participant group 8)*

6.4.1.2 Theme 2: The Complexity and Mandate Dilemma – *"I think it sheds light onto a dilemma, which we often encounter, because we notice that there are several stressful factors"*

A second theme identified across the group discussions centred on the interrelated aspects of complexity of children centre cases and the mandated task of the DCC. Across the FGDs participants described how despite the recognised importance of different victimisation profiles, children are referred to the DCC in instances of (suspected) CSA or CPA, as per the DCC's legal mandate. The result is therefore a strong emphasis on the referral reason, rendering it challenging to address the multiple and concurrent exposures of children; the majority of whom have more complex exposure histories than their referral reason alone would suggest. Some employees raised the concern that addressing

a single incident or type of abuse in the children centre work can be problematic since this represents a '*fictitious construct*' and does not necessarily represent the most salient incident for that child:

> *I have also worked with some children, where it is clear that there are several of these victimisation factors and where the child comes in on the basis of sexual abuse, but what matters most is that dad is beating the younger brother, so the reason why the child comes in the children centre is not necessarily what is the most burdensome in the world of the child and I think that this is important information that these profiles help to shed light onto in some way. That there is something else and that it is important to get the real experience of child and what is difficult in their world, and then we have to look a little broader at it. At least if we are to help them where they are most burdened and where it hurts the most in their lives. (participant, group 9)*

In continuation of this, the complexity of cases was also discussed in relation to the symptom profile of the children and the difficulties linking the mental health problems of the child directly to the reason for referral. In specific, because the symptoms of the child are not necessarily a direct consequence of CSA or CPA but may be linked to other factors in the life of the child or the entire care milieu in the home. Employees also debated that even though the abuse (i.e. the reason for referral) is the issue that is criminalised in Danish society, and therefore what brings the case into the centre, the incidents of CSA and CPA do not necessarily represent the '*worst trauma*' or '*the most burdensome experienc*e' in the life of the child:

> *I also think that it is important to note that even though the child comes in because of violence or abuse, there is often much more that comes along, so the stress reactions or symptoms we detect are not necessarily a direct consequence of why they come in children centre, it might as well be a consequence of all the other stress or load factors. As I write my final report, I practice making it clear that there is also something else that the child could be burdened with. So if we*

> *are going to be able to help this child further in a good way, then it is not useful that we only look at the abuse, then it is also necessary that we look at whether the parents are alcoholic or if the parents are mutually abusive, so that one thinks about the symptoms of the child as a consequence of several things and if we are to reduce all the symptoms, then we have to look at all the things that can lie behind. (participant, group 9)*

Employees further discussed the dilemma of, on the one hand, focusing on and fulfilling their specific work task and expertise area of the DCC, i.e. CPA and CSA, and on the other, encountering children with histories and issues that exceed the focus area of the DCC. Employees expressed the practical difficulties of '*extracting the abuse'* in the children centre work:

> *Our focus is the specific sexual or physical abuse or the suspected abuse. That's what we should focus on in the overall child examination. But at the same time, we get all this other information and impressions regarding other factors. It's a dilemma, how much we should cover given that it is not our primary focus, but it's relevant and maybe no-one else will cover it. (participant, group 3)*

Some employees suggested that the assessment task of the DCC could potentially be expanded in the future given the frequently experienced complexity of cases. Others, however, presented a more critical and reserved position towards the potential expansion of the remit of the DCC. The latter felt that the responsibility of assessing the cases more broadly falls with the local municipalities, since they are responsible for conducting the overall child examination (i.e. §50 examination). They also referred to issues of resources, the small number of assessment sessions in the children centres, workload, and the danger of diluting the expertise in the field of CSA and CPA as a consequence of expanding the work tasks:

But it is a balance all the time, too, what is included in the §50 examination. We can quickly expand our task, right? It can be very big, where I think that what we see we must - it is still a snapshot. I think you have to be careful. Many times, the municipality counsellor also already knows these stressors (...) we are the ones who are going to do the work. Because if we are going to expand it then we need some help for sure. Then we will need to be much more people and write much more. (participant, group 3)

Despite of the diverging discourses regarding a potential expansion of the assessment task, employees generally emphasised that a broad child assessment is crucial in order to accurately capture and describe the situation and needs of the child. The debate was thus more so related to the question of institutional responsibility and division of labour in the assessment phase.

6.4.1.3 Theme 3: Usability, Relevancy, and Applicability

Employees reflected upon various aspects of the relevancy, usability, and applicability of the quantitative victimisation profiles and their associated child background characteristics and mental health outcomes in relation to their practical work. Several facets of relevancy, usability, and applicability were discussed across groups and were partly framed by the discussion guide, within which direct questions on the usability and relevancy of the results were asked. The theme of 'Usability, Relevancy and Applicability' of the study results was particularly seen as significant to three different aspects of the DCC employee's work: the assessment, the cross-sectoral consultation meetings, and the final report and recommendation preparation.

6.4.1.3.1 Sub-theme: Overview and Guidance - *"I think many of the profiles made good sense as a general overview"*

Across the FGDs, employees emphasised how the findings on the different victimisation profiles and associated factors were useful in terms of providing general overview and as a tool for '*classification*' and '*specification of what stressors can occur and impact the life of the child*'. Employees also described how the findings were useful in terms of providing a '*framework for understanding the different types of families'* and as '*a guidance for what to be aware of and more systematically pay special attention to'* in their clinical work:

> *These different classes and groups. It can specify it a bit more. Because you meet children with so many different things - it can give a slightly muddy picture sometimes, where I can have an experience of children who experience so much different but being able to classify them and say that 'okay, there is a trend that this and this co-occurs'. It can provide an overview. (participant, group 5)*

Some participants, however, also expressed a reservation towards using the profiles directly in their clinical work and a fear of '*overpowering*' the profiles since they are statistical classifications with large variations and may '*stereotype*' families. These voices expressed a clinical need to always meet the individual child and family and continuously address and assess the unique features of each specific case.

6.4.1.3.2 Subtheme: Usability in Assessment – *"It is a reminder of points of attention in the assessment"*

In this theme participants discussed the more concrete facets of applicability and usability of the findings in relation to one of their core work tasks: The child assessment, and how the findings could be used to inform a broader assessment of the child and to act as a

reminder to be aware of the possibility of other types of victimisations within an assessment:

> *I think the results are important in that sense that it provides really good material for reflection in relation to what it is important to focus on in the child and parent conversations and in relation to how each of us works and in order to have some sharing of knowledge, how we use this and for what purpose. The breadth of such an assessment. Of course, it should not be for the sake of statistics, but because it provides a nuanced picture of the child and its needs. Because if there are some things that we don't ask about, that are examined here, then it can have a big impact on the needs of the child, which we don't cover. (participant, group 9)*

Across the groups it was also discussed that some of the regional DCCs already conduct a broader assessment by complementing the children centre assessment along with the ACE questionnaire:

> *I use it a lot already with ACE now that I write down all the adverse events I can find in the life of the child. So that it doesn't seems like child has only been beaten, exposed to disciplinary violence, but that the child is also being bullied and experiences high level of conflict at home and therefore it is clear that the child needs help. (participant, group 7)*

6.4.1.3.3 Subtheme: Usability in the cross-sectoral case consultation meetings – *"It underpins that we have to work across sectors"*

Participants reflected upon how the knowledge on the victimisation profiles and associated variables were usable and relevant in relation to their specific children centres work tasks including child assessment sessions, but also discussed the findings' relevancy, usability, and applicability of findings in relation to the broader institutional landscape of the DCC and in relation to the processes of cross-sectoral collaboration.

The cross-sectoral consultation meeting, where the different sectors meet to discuss the cases, was repeatedly brought forward as a relevant forum for focussing on

the concept of polyvictimisation. The case consultation meeting was also mentioned as an ideal setting to share information and to engage and involve the other sectors, such as the health care sector, the police, and the social sector/municipality, in terms of providing and elucidating knowledge of additional stressful factors and to obtain a more complete picture of the situation of the child:

> *There is also some knowledge regarding what the parents carry with them and how it can contribute to challenges for the child, if it is parents who have been sexually abused themselves or if it is a family where, in addition to suspicion of violence against the child, there is also violence between the parents or something else, to actively bring it into the case consultation meeting to those who could have some knowledge about this to ensuring – to start with stating that we know that it often coexists and can increase the level of stress for the child. So, to use it as a springboard in the case consultation meeting and make sure that we get that knowledge and that it doesn't just slip out because no one was thinking about it. (participant, group 10)*

As was the case in the 'Complexity and Mandate Dilemma' theme, a persistent debate emerged as to whether it was the role of the DCC to receive and collect information from the other sectors to create the 'full picture' of the situation of the child in the cross-sectoral consultation meeting, or if the DCC employees should instead engage the local municipality in conducting and mapping the situation of the child beyond the CSA or CPA. Despite disagreement in terms of institutional responsibility, (i.e. which sector should be responsible for the broader assessment of the child), participants generally expressed that children centre employees should be the actors explicitly articulating and making the other sectors aware of the victimisation co-occurrence issue and its potential impact on child functioning in the cross-sectoral case consultation meetings going forward. This was best expressed by one participant when she said: *I think we have a role*

in terms of disseminating the concept, the need for looking at the whole picture. (participant, group 4.)

6.4.1.3.4 Subtheme: Final Report and Recommendations – *"I wonder if I can use it in my final notes to be more precise. We do that a little already, and I'm sure we all do, but how can we try to become a bit more sensitive and underline some of these stress factors or the polyvictimisation"*

This sub-theme was also apparent in relation to the final reports and the recommendations that the children centre employees provide at the end of a child assessment in the DCC. Across the FGDs, participants suggested that the information on the victimisation profiles and their associated factors could be integrated into the final report in order to inform their recommendations. In specific, as a way to be more explicit about, underlining, and nuancing the additional stress factors that have been observed by the employees. Participants described how the polyvictimisation concept may therefore represent a term that can be actively applied in the final report to describe the complexity of the case and how knowledge on polyvictimisation could further qualify the final recommendations provided by the DCC. Again, while it appeared that some children centre employees already work by describing additional adverse factors in the final report, this practice was not common across the DCC. For them, the polyvictimisation concept represents a fixed and concrete concept for more systematically and precisely describing, gathering, and communicating the multiplicity issue of factors that are often observed in the life of the child:

> *To use the term actively in the final report. We already kind of do that with the burdensome factors that we line up, but you could make it a little more explicit. Describe the significance it has. One could well have a standard wording about it in the final note. (participant, group 4)*

Some participants also discussed the further implications of using the polyvictimisation concept in the final report in terms of how it could inform different treatment and intervention initiatives in the future. It was discussed how the different profiles and their symptom pictures may point to different types of intervention and treatment needs and that the polyvictimisation concept may help to stress that different types of interventions and treatment programmes are needed in cases where children face a range of victimising and stressful events:

> *It also becomes relevant in relation to our recommendation; how should we help this family. Often it is like 'there has been abuse and then trauma treatment is recommended'. But that's just one leg, and the first leg may not always be the best one to stand on. I can hope that it can further support that perspective, so that it is not automatically a recommendation of family treatment. (participant, group 6)*

6.4.1.3.5 Subtheme: A Call for Causality and Prediction - *"What comes first? If you live in a home with many quarrels and mental illness and so on, it is then a risk factor for being abused?"*

Participants more critically reflected upon the usability and applicability aspects of the quantitative findings by considering the aspects of causality and prediction in the presented analysis. Across the FGDs, it was articulated how these aspects were missing from or could be elaborated further upon the current quantitative analysis and findings. Participants repeatedly discussed the causal order of factors and '*how things really tie together*'. Across the group discussions it was suggested that the results of the victimisation profiles and associated factors would be more useful and applicable in the DCC context if they could specify the causal pathways between the different factors and if they could be used for prediction and risk assessment in the clinical work, since this type of knowledge would bring more weight to the final recommendations. This request

was particularly linked to the consultative task of the DCC work, e.g. when external professionals call the DCC for guidance in cases of (suspected) child abuse.

Employees expressed how they would find it beneficial to be able to estimate and communicate a certain probability for a specific traumatic experience given the presence of another traumatic experience. This clinical request of prediction and causality was articulated for the different victimisation types, e.g. if growing up in a home characterised by a stressful and adverse home environment increases the risk for exposure to child abuse but was especially highlighted in regard to predicting or estimating the risk for certain psychological symptoms given a certain constellation or history of victimisations:

> *The thing I would like to be able to use it for is to predict when we for example are dealing with conflicts and domestic violence, then we must pay special attention to the child's anger or self-harming behaviour. So, you could look in a certain direction, because sometimes we get consultation calls like 'we have some children who have been exposed to this and this' and then the teachers ask what symptoms they should be aware of and we cannot give them that information. And neither should we. But still you could have a focus on or attention to if there was a particular risk. (participant, group 4)*

Another aspect that was articulated across the FGDs was that the current data analysis represents a '*snapshot*' and employees were curious in regard to the long-term symptom pathways and broader life trajectories following multiple victimisation exposure in childhood since this, according the employees, would also bring more weight to the final recommendations. This is best evidenced by one participant when she said: *I also think it could have impact in relation to that they (local municipality social workers) should take our recommendations seriously. Like if we were having statistics on long-term effects.* (participant, group 7).

6.4.1.3.6 Subtheme: Translational Issues - *"It may require an additional round of processing in order to using it actively"*

Though participants in different ways repeatedly described how the quantitative results were useful and relevant as an overall overview in the children centre work and as a foundational tool during the assessment, some application challenges were also articulated across FGDs. For example, employees described how the profile plots in their current format would be difficult to communicate to their collaborators such as the local municipality social workers. The employees also explained how it was difficult to remember and keep track of the eight different victimisation profiles and how exactly they were distinguishable from each other.

> *What I find difficult in regard to using in relation to the concrete work is that there are five categories for the girls and three for the boys and I can't remember exactly how the profiles look like and so I don't quite know how to use it. (participant, group 12)*

Participants also emphasised how the terminology related to the profiles including 'polyvictimisation' and 'dysfunctional home' were new to the employees and the collaboration partners and that the employees would need to familiarise themselves further with these concepts in order to use the presented knowledge in practice. Across the group discussion it was argued that the knowledge would benefit from being presented in a more simple and clear fashion such that it was more likely to be used by employees:

> *I think, the profiles. So, it needs to be gathered even more or be presented in boxes if you should be able to communicate it at case consultation meetings, but we may well use it as background knowledge and have an attention to it so that one can look up these profiles and see if a child looks a little like it. But it should not imply that one goes more in one direction, maybe the child does not fit the statistics. It should be more so to check if there is something you have forgotten*

or noticed or examined as an extra element in relation to being more exposed. (participant, group 4)

6.4.1.4 Theme 4: Underreporting – *"But I wonder if there may be underreporting in the data because in some of these cases we don't have the knowledge to report sufficiently"*

Across the FGDs a theme of data underreporting was identified. Participants reflected particularly on the issue of potential underreporting in relation to the victimisation categories of household alcohol abuse/drugs and adult criminality. Across the group discussions, based on the local knowledge impressions, these specific victimisation probabilities were expected to be greater than what appeared in results and were expected to co-occur with different types of family violence. These observations facilitated a general discussion of data underreporting in the BIT system:

> *BIT is not an indication that it is not there, but perhaps we have not been able to investigate it. In those cases where we do not meet the parents, we can't investigate it in the same way. Maybe we can remember something from the case consultation meeting, that dad does drugs, etc. We try to include it. (participant, group 6)*

Participants also discussed how the issue of underreporting relates to the issue of the primary role of the DCC to be to assess CSA and CPA and that employees are not always able to sufficiently obtain and register information related to additional victimisation factors, which may, therefore, lead to underreporting of certain factors in the BIT database. Despite the issue of potential underreporting for certain variables, the emerging profiles were, as mentioned, widely recognised by the employees.

6.4.1.5 Theme 5: Future Perspectives on polyvictimisation in the DCC – *"If we were to really find the causes for why it happens, then there are many factors that need to be analysed if more preventative work is to be done"*

In the last part of the FGDs, participants discussed what knowledge is lacking in relation to investigating the concept of polyvictimisation in the DCC going forward. Due to the self-moderation format of the discussions, the meaning of this question was open for interpretation. Some groups focused on information lacking in relation to research on polyvictimisation whereas others interpreted and answered the question from a more practical perspective. Across the various groups, common patterns of future aspects to investigate or include in the children centre work with regards to polyvictimisation were identified. One theme that was articulated across groups was **parental competencies/capacities** and their role in relation to the concept of polyvictimisation. Participants repeatedly described how the parental reflective functioning, i.e. ability to understand his/her child's mental states, represented an important and potentially underlying factor in relation to child abuse and that this aspect was lacking from the current presented analysis:

> *But this is precisely what is difficult to capture by the statistics. Because those categories are also connected, I think. Because they share some kind of common underlying cause. You do not automatically beat your children because you don't go to work, but there is an association between that those who are disadvantaged in terms of the labour market more often beat their children and this is due to some common traits that underlie the categories. So, for example, one has an inflexible mindset, a bad temper or is bad at reflective functioning. (participant, group 2)*

The theme of parental competencies/capacities was highlighted as an important aspect to investigate and to include in the future since it, according to the employees, represents an aspect that could be addressed and worked on within the DCC context. For example, by

training or cultivating the parental ability for reflective functioning. Issues such as unemployment, on the other hand, were considered outside the scope of the DCC's work.

Similarly, **parental/intergenerational trauma** such as parental sexual victimisation or refugee trauma experiences was seen as another component that should be incorporated as something that the work of the DCC could help address. Participants discussed how the referral reasons, CSA and CPA, should be seen within a broader picture of familial trauma or exposure to abuse across generations:

> *I think it is relevant too, the transgenerational perspective because often abuse happens across generations and whether one could distinguish. We have disciplinary violence, but it can be divided into many types. What is polyvictimisation? There is disciplinary violence and PTSD families and mental illness and then there is something that can go on across generations (...) Because I think I meet many families where I also get the feeling that the mom has been exposed to something once. You don't exactly ask because she is not the object of the examination, it is the child. Can you ask her about it if she has kept that secret for 30 years and look into whether she has been exposed to something. (participant, group 12)*

Ethnicity, refugee status, and culture were also repeatedly articulated as important aspects to include in further analysis and investigations of polyvictimisation within the DCC context. Employees were particularly interested in exploring how ethnicity or refugee status would distribute across the victimisation profiles and what the symptom profiles would look like for individuals with different cultural backgrounds:

> *I don't remember if there is anything in relation to ethnicity and culture. Something about refugee backgrounds. I think that is also a factor in relation to these families. What they have with them. To understand some of these issues. (participant, group 10)*

Participants also repeatedly reflected upon how a **division in terms of age** would further nuance the results, e.g. if an age-divided profile analysis would provide different profiles for different age groups and whether the symptom pictures would also vary across different developmental stages. These ideas were based on clinical impressions that younger children may not understand the implications of abuse in the same way as older children and may therefore react differently and that adolescents may have been victimised to a higher extent than younger children given their higher age and engagement in more life arenas: *We know that the probability is greater the older you are when you come in more contexts where you can be at greater risk or you just have experienced more because you are older.* (participant, group 4).

Across the discussions, the concepts of **resilience and protective factors** also formed a theme. These concepts were highlighted as interesting and important points of attention in future work on polyvictimisation in the DCC context and as aspects that could further crystallise the victimisation profiles and their associated symptom picture. The aspects of resilience and protective factors were also mentioned in relation to their practical work and in relation to how the children could be supported in the future:

> *But there is also the aspect of resilience. What is it that every child comes with. In this, we are only talking about the risk factors and not the protective factors, but which protective factors can have an influence in relation to the symptoms that the children are displaying? Has there been a secure attachment figure somewhere that could have had a positive effect? And how does their cognitive level come into play? (participant, group 13)*

Participants also pointed out how the medical sector and factors related to child physical health were lacking in the current analysis on polyvictimisation in the DCC context and how these aspects could be included in future work on and analysis of polyvictimisation. Specifically, an inclusion of **somatic symptoms** was requested across the FGDs to obtain

a more complete picture of overall child health: *There isn't much about somatic symptoms. I think that could also be very interesting. I meet many children with physical symptoms, so it might be interesting to go in depth with that too.* (participant, group 5).

Some employees also emphasised how the analysis would benefit from a crystallisation of the **subtypes of CPA and CSA** for the different victimisation profiles in which CSA and CPA were included as two overall categories. These observations mirror the limitation points presented in Chapter 5. Some employees described how the information on subtypes would nuance the profiles and provide an indication of the abuse severity within each profiles '*because violence is many different things*'. In other groups, employees, however, expressed a reservation towards the subtype data quality based on the clinical experiences that younger children have difficulties in distinguishing between, conceptualising, and verbalising different types of physical violence, which can impact on the reliability of the data gathered.

Finally, a theme of **psychological/emotional abuse** was offered as a future point of attention in the analytical work on polyvictimisation in the DCC context. As mentioned, in April 2019, psychological abuse was formally criminalised in the Danish society and since then the DCC have also managed cases of psychological victimisation. Across the FGDs employees expressed an interest in exploring the role of psychological violence in regard to the victimisation profile analysis in the future.

6.4.2 Results from participatory exercises: formulating recommendations

Table 6.3 presents a summary of the recommendations formulated by the DCC employees in the fourth part of the workshop. The results of the CA were therefore used to answer to the second research question. The recommendations fall under a range of

subcategories such as additional data analysis, improvement of future data collection, assessment tools, incorporation of polyvictimisation into DCC reports and recommendations, and incorporation of polyvictimisation into cross-sectoral work procedures. Parentheses indicate the number of times the recommendation was mentioned across the groups. The coding scheme for the recommendations is presented in Appendix H. The final list of recommendations for future work on the polyvictimisation concept within the DCC is therefore based on the results from the FGDs and the participatory exercises.

Table 6.3. Employee formulated recommendations for future work with the polyvictimisation concept in the DCC context

Overall category	Sub-category	Recommendations (counts)
Data	Additional data analysis Aspects related to the existing BIT data that according to DCC employees is lacking from the current quantitative data analysis related to the polyvictimisation concept.	Investigate physical abuse and sexual abuse/assault subtypes in relation to the profile and symptom analysis (3) Investigate the association between child functional impairment and polyvictimisation (1) Carry out the analysis with background/risk factors as the dependent variables (1)
	Improve future data collection. Aspects related to data analysis that are not possible to investigate within the current BIT data material but are highlighted by the DCC employees as important points of attention for future data analysis related to the polyvictimisation concept.	Formulate a more precise description of the variables in the BIT data manual /nuance the variables and operationalisation of variables (1) Investigate the aspects of causality in relation to victimisation and symptom variables/what comes first? (1) Investigate the long-term psychological symptoms (e.g. after six months, one year etc.) (2) Investigate how the psychological abuse category affects the polyvictimisation

		definition, the profiles, and the symptom pictures (2) Include additional victimisation/adversity types: Bullying (1), out of home placement (1), a distinction between divorce and high conflict divorce (1), socioeconomic status from registry data (1), emotional neglect (1) Explore the impact of the investigative interview on the child (1) Include aspects of child resilience in the analysis (1) Include additional parental characteristics/backgrounds/histories in the analysis (e.g. reflective functioning, temperament, attachment styles, parental trauma history etc.) (5) Include ethnicity, cultural aspects, and refugee backgrounds in the analysis to see how it impacts profiles and symptoms (4)
Assessment	Assessment tools - Develop tools/instruments for systematically screening and/or assessing for polyvictimisation and related factors (symptoms, resilience etc.) in the DCC in the future.	Increase awareness in terms of systematically uncovering the number of different victimisations in the life of the child (3) (to also strengthen the results from BIT) Develop or apply a victimisation questionnaire/checklist for assessment and inclusion of additional victimisations and adversities to be used in the assessment sessions and/or cross-sectoral consultation meetings (e.g. a type of ACE score) (5) Develop a children centre specific symptom checklist (2) Develop/locate assessment tools for resilience factors (1) Assess/screen for additional parental characteristics/backgrounds/histories in the analysis (e.g. reflective functioning, temperament, attachment styles, parental trauma history) (5)

Final reports and recommendations	Incorporation of polyvictimisation into DCC reports and recommendations	Discuss how the polyvictimisation concept can be communicated and disseminated in the final DCC reports and recommendations (3) Develop standardised written formulations regarding the polyvictimisation concept for usage in the final report (1)
Cross-sectoral collaboration	Incorporation of polyvictimisation into cross-sectoral work procedures	Focus on collaboration with local municipality social workers in relation to the polyvictimisation concept (3) and discuss and clarify who should be responsible for the assessment/screening of additional victimisations in the life of the child Increase awareness on systematic cross-sectoral knowledge exchange regarding the family in the cross- sectoral case consultation meetings (2) e.g. by the means of standardised written formulations regarding the polyvictimisation concept in consultation meeting minutes (1) Discuss how the knowledge on polyvictimisation from the research project can be integrated into the processes of cross-sectoral cooperation (2) Discuss how the knowledge on polyvictimisation can be used in relation to family interventions during the assessment period (1)

6.5 Discussion

This final phase of the study investigated how the results from Chapters 4 and 5 could best be integrated into the interdisciplinary work of the DCC in order to strengthen future case management in cases with multiply-victimised children. In addition, this phase of the study sought to derive recommendations for future work on PV within the DCC setting, as prioritised by the DCC professionals themselves. These objectives were achieved through applying different types of participatory methods in the context of six

workshops held across each of Denmark's children centres. The study thus engaged all 'end-users' and their 'local knowledge' to allow for the co-interpretation of the results, consistent with the principles of IR and PAR.

The DCC employees discussed various dimensions of usability, relevancy, and applicability of the victimisation profiles as well as their associated factors in relation to their interdisciplinary work procedures. Furthermore, the employees debated what information is currently lacking in relation to the future investigation of polyvictimisation in the context of the DCC.

Results suggest that employees found the different victimisation profiles identified in the BIT data and their associations with external variables as more confirmatory, rather than surprising, as the various victimisation profiles and their associations with auxiliary factors were clinically recognised and largely corresponded to the clinical impressions and experiences of DCC employees. As such, the results of the victimisation profiles were perceived as a form of 'external validation' of their clinical impressions and were deemed useful in terms of supporting and bringing further weight to the work of the DCC. Specifically, the profiles were seen as giving further credibility to the recommendations provided at the end of an assessment. The aspect of 'validation' can, however, be perceived as mutually benefitting. As mentioned in Chapter 5, different types of validity are considered important in LCA including 'construct validity' and 'predictive validity', where classes or profiles are linked to external variables to appraise their broader relevance and 'raison d'être' (Contractor et al., 2018). The current analysis suggests that the use of participatory methods, where findings are presented back to the personnel collecting the data, adds an important and supplementary type of 'validity' to the LCA method in terms of a '*clinical and practical validity*'. Here, clinical and practical validity serves to demonstrate that the profiles and associations with auxiliary variables

are clinically meaningful and useful to professionals responsible for working with children who have experienced victimisation. The aspect of 'clinical and practical validity' is particularly interesting given the relatively large amount of missing data for certain victimisation categories in the quantitative analysis, as described in Chapter 3. Despite missing data, the results were broadly recognised by the clinicians. This suggests that though there is room to improve BIT data collection procedures to reduce the amount of missing data, the data amassed from BIT represents a relevant and informative springboard for the investigation of polyvictimisation within the DCC context.

The presentation of the results to the DCC employees further facilitated a 'local interpretation' and critical reflection of the results, adding extra depth and understanding to the analysis. For example, I had initially conceptualised the victimisation category of frequent moving/relocating of the family as a reflection of the Danish concept of 'nomad families', defined as socially vulnerable families characterised by a worrying pattern of frequent relocations within the same or between different local municipalities (Ankestyrelsen, 2014). In the participatory workshop however, the DCC employees presented a different interpretation and suggested that the frequent relocating category, in addition to 'nomad families', could also cover refugee families. Employees also engaged local and clinical knowledge as they suggested that the out-of-home placement variable may better serve as a victimisation category alongside child abuse rather than being conceptualised as a background factor in future research since it represents a potentially traumatic separation from the caregiver. Employees also suggested that the encounter with the children centre might, in some cases, also serve as a traumatic experience. Specifically, the investigative interview where a child discloses the abuse might negatively impact the child as an additional element of 'institutional victimisation'. These

examples illustrate how participatory approaches can facilitate a better understanding and co-interpretation of the data.

The results of this phase of the research also provide greater insight into how the results of Chapter 5 can be practically integrated into the DCC context, in fulfilment of objective 3. Victimisation profiles and their associated factors were described at useful in terms of providing a general overview and a framework for understanding victimisation co-occurrence and specific constellations of victimisations. Employees also described how the profiles were useful in the context of more interdisciplinary tasks, such as the child assessment phase. Here, they saw the profiles as offering key guidance for additional points of attention and awareness in the assessment sessions, e.g. focus on broader environmental stressors such as parental mental illness or domestic violence, with children and parents. Results also suggest that the different victimisation profiles and the supplementary analysis offers a springboard to increase interdisciplinarity and cross-sectoral focus during the cross-sectoral case consultation meetings, as highly relevant professional forums for addressing and potentially assessing polyvictimisation. During cross-sectoral consultation meetings, different sectors can share information and feed in knowledge regarding the various types of victimisations or stressors characterising the family, towards a more comprehensive mapping and understanding of the situation of the child and also towards the identification of potential risk factors and mental health outcomes to be aware of.

In terms of applicability, relevancy, and usability, the results indicated that the victimisation profiles and their associated analysis may benefit from an additional round of processing and translation of findings in order to strengthen the applicability and integration of findings into in the practical context of the DCC and in order for employees to better disseminate and communicate information on victimisation co-occurrence to

other sectors. While the presentation of the results to the DCC employees was accompanied by profile plots to illustrate and visualise qualitative and quantitative profile differences in victimisation item endorsement, in accordance with recent recommendations (Debowska et al., 2017), the FGDs suggested that more simple communication procedures beyond the visual profile plots are warranted to enhance usability and applicability in applied clinical settings. This could imply further visualisation and simplification of the profile analysis, e.g. words in boxes instead of graphs and probabilities. The results from the FGDs therefore illustrate that even though the LCA method is useful in the domain of research in terms of generating a nuanced and sophisticated investigating of patterns of victimisation exposures, the application of this method on 'high risk' samples with a number of variations in victimisation exposures also produces a high level of complexity in terms of the results. This level of complexity requires additional translation and simplification in order for practitioners to be able to implement and directly apply this information to their clinical work.

A call for causality and prediction of the various victimisation profiles was also requested by the DCC employees, suggesting that the DCC would benefit from future longitudinal research to establish causal pathways in relation to victimisation and symptom variables and to obtain information on long-term mental health and overall life opportunity trajectories of the children. According to the DCC employees, this would offer further support for the recommendations generated by the DCC professionals following the child assessment.

While the victimisation profiles seem to align to the participants' clinical impressions, results on the average internalising, externalising and total problem scores presented for the different victimisation profiles were called into question. In Chapter 2, it was highlighted that the internalising and externalising problem spectra represents one

of the most widely agreed upon taxonomies in psychopathology research (Achenbach et al., 2016). The results from the systematic literature review (Chapter 4) further supported the presence of externalising and internalising problem domains as well as total combined problems as significant correlates of polyvictimisation across the literature; a finding that directly informed the design of the LCA, where an internalising, externalising, and combined distress category were constructed and used as the primary outcome variables for the analysis (Chapter 5). The DCC employees however, expressed how the different average symptom scores (mean scores of externalising, internalising, and total problems) deviated from their clinical impressions, in that they had expected them to be higher.

This discrepancy may be account for the internalising and externalising problems representing only a fraction of the total number of symptoms registered in the BIT database. Also, the symptom values are average values spanning individual variations. This also suggests that the investigation of symptoms in the DCC context, and the investigation of child symptomatology more broadly, might benefit from the application of both person-centred and variable-oriented approaches (Basten et al., 2013; McElroy, Shevlin, & Murphy, 2017). A recent systematic review on studies using person-oriented statistical methods such as LPA and LCA identified various different subgroups of children with qualitatively distinct patterns of mental health across 23 studies, pointing to the significant heterogeneity of child symptomatology (Petersen et al., 2019). Extant research further suggests that traumatised and multiply-victimised children often endorse complex mental health symptomatology and display 'multi-morbid' conditions (McElroy et al., 2017; van der Kolk, 2005). Addressing mental health problems as distinct categories rather than incorporating a wider spectrum of symptoms may therefore generate a siloed, compartmentalised, and fragmented approach to child mental health, with the risk of overlooking patterns of symptom co-occurrence (van der Kolk, 2005). A

focus on distinct and narrower categories of child mental health may therefore be particularly problematic when investigating children exposed to a broad range of stressful and victimising events. Future work on the polyvictimisation concept and associated symptomatology should therefore consider various psychological symptoms and combining both quantitative and qualitative dimensions of child mental health to investigate how different types of psychological symptom cluster and co-occur within individuals (Curran et al., 2018). A person-oriented study of child psychopathology is particularly relevant in to the intervention strategies and recommendations that follow the DCC assessment, to better inform the specific treatment needs of children with different patterns of symptoms (Petersen et al., 2019). The co-occurrence and multiplicity aspect should therefore not only be integrated and accounted for in relation to patterns of childhood victimisation but also in relation to childhood symptomatology, especially in investigations of child populations exposed to multiple harms. Results further suggest that while DCC employees found the multiplicity aspect of child victimisation as important to consider when working with cases of child abuse, they faced a dilemma in terms of case complexity being misaligned to the legally defined mandate of the DCC. Employees, as mandated to address the criminalised acts of CSA and CPA as the legal obligation of the DCC, are forced to prioritise these types of abuse over more complex and multifaceted exposure histories. This further raised the issue of sectoral responsibilities and division of labour with regards to the polyvictimisation concept. Specifically, which sector should be responsible for carrying out a broad assessment of various stressful factors in the life of the child. While some employees supported an expansion of the DCC assessment task, others thought the local municipality responsible for these broader assessments.

These dilemmas and different positions are interesting in the light of the extant literature. Hamby and Grych (2013), Finkelhor (2008), and Lätsch et al. (2017) have all described how present challenges in the field of childhood victimisation research and practice are the issues of compartmentalisation, fragmentation, and hyper-specialisation. This means that different types of childhood victimisation are often investigated and treated within 'disciplinary siloes' focused on and addressing distinct, specific types of victimisation. This contrasts with a more holistic and contextual understanding of victimisation co-occurrence, undermining interventions that consider the full range of factors potentially compromising child mental health. This compartmentalisation is thus problematic as it overlooks and minimises the true burden of victimised individuals (Hamby & Grych, 2013).

According to Loseke (2001), when an individual enters a social service institution, he or she commonly presents a history, or a narrative constituted by multifaceted biographical information with some parts being more or less relevant in relation to the specific focus of the given institution. Professionals in social service institutions will thus typically address and highlight specific components in the personal narrative corresponding to the institutional mandate. Hence, a given institution will always promote specific features of the individual; certain 'biographical particulars' (Spencer, 2001). In the context of the DCC these 'biographical particulars' can be translated into CSA or CPA, which are linked to the DCC's specific mandate and area of specialisation, or the disciplinary boundaries and legal framework established by clinicians and policy makers that directs and shapes the orientation and direction of the institution's work. These 'biographical particulars', promoted by the social and human service institution, may therefore not necessarily represent those parts of the narrative that the individual itself finds most relevant, debilitating, or serious (Hamby & Grych, 2013 ; Spencer, 2001).

According to Hamby and Grych (2013) specialist clinicians are, furthermore, often inclined to perceive their specific field of expertise as the cause of a client's adverse psychological symptoms. Interestingly, in the context of the DCC, employees, however, actively expressed how the symptoms of children are likely be related to other factors or to the combination of adverse experiences, suggesting the issue of co-occurrence is already reflected upon by many professionals in the institutional context of the DCC. This is consistent with Hamby and Grych's call for an increased focus on the co-occurrence and multiplicity aspect of victimisation within social service agencies, including a broader assessment focus. They further warn that this suggestion may trigger institutional and professional resistance as expressed through a '*That's not our mandate'* (Hamby & Grych, 2013, p.6) discourse since an expansion of an institution's mandate may be perceived as a threat to professional identities and field of expertise as well as a change that generates higher caseloads, placing further demands on already overworked staff (Hamby & Grych, 2013). Reservations towards an expansion of the children centre's assessment task also emerged from the FGDs. This discourse was rooted in issues of resource allocation and dilution of expertise and can thus be interpreted and understood in the light of the theoretical framework by Hamby and Grych (2013). Specifically, the aforementioned theoretical reflections consider a potential clash between multifaceted human narratives and siloed intuitional mandates. They are also important in relation to the identification of the 'worst trauma' or 'the most burdensome experience' in the context of the DCC cases; an issue repeatedly discussed across the FGDs. This is reflected in the DCC employees expressing that the referral reason to the children centre, or the 'presenting' problem', of CSA or CPA may not always represent the most distressing event in the life of the child, consistent with the concept of the 'index trauma' in the trauma and post-traumatic symptom literature. Conceptualised as the 'worst trauma' or

'most distressing traumatic experience' of an individual, the concept of an 'index trauma' is common in the diagnosis of PTSD (Cloitre et al., 2018; Keane & Barlow, 2004; Smith et al., 2016). The concept of polyvictimisation, may, however pose a challenge to the concept of an 'index trauma' in that it extracts a certain experience and relates this single 'worst experience' to post-traumatic symptomatology. The existence of multiply-victimised children facing various stressors for whom victimisation tends to be a complex condition rather than a single event (Finkelhor et al., 2007a) challenges the idea of the 'index trauma' and the act of extracting and categorising a certain experience as the 'worst' or 'most distressing' experience. Research has indicated that multiply-exposed individuals typically associate their post-traumatic symptoms with multiple traumatic events (Karam et al., 2014). Seen through a polyvictimisation lens, the idea and the extraction of an 'index trauma' thus represent a siloed approach to victimisation and its associated symptomatology. Recent research among children and adults has shown that the control for polyvictimisation or cumulative trauma negates the association between the experience often categorised as 'worst traumas' such as sexual abuse or assault and psychopathology (Finkelhor et al., 2007a; Priebe et al., 2018). This is consistent with the findings of the systematic literature review presented in Chapter 4. Research also suggests that exposure to cumulative trauma or multiple victimisations is associated with increased symptom complexity (Cloitre et al., 2009; Grasso et al., 2013a; Priebe et al., 2018; Simpson, Comtois, Moore, & Kaysen, 2011). Priebe and colleagues (2018) have therefore suggested an alternative version of the 'index trauma' that allows multiple events to be included in the 'index trauma' construct which is particularly important in relation to individuals exposed to multiple traumatic experiences. The concept of polyvictimisation therefore has important clinical implications for the investigation of post-traumatic symptomatology since the concept challenges the practice of extracting a single traumatic

experience and understanding post-traumatic symptomatology in relation to a single event or type of traumatic experience (i.e. sexual abuse or assault).

A 'siloed approach' in child abuse cases is also in contrast to the Nordic Barnahus Models (including the DCC) and the U.S. CAC Models, both of which promote holistic and child-centred approaches that foster cross-disciplinary communication and collaboration in order to reduce disciplinary siloes and compartmentalisation. These models of care are further upheld as models that promote a co-occurrence-oriented response to child abuse (Hamby & Grych, 2013; Johansson et al., 2017). That the DCC target and focus on distinct, legally defined types of child abuse which extract and are concerned with specific 'biographical particulars' is, however, incongruent with the multifaceted situation of the child and in some respect these models for care thus remain siloed. Addressing and eliminating a single victimisation factor may fail to improve the conditions for children and youth living in families facing multiple co-occurrent stressors (Swords, Merriman, & O'Donnell, 2013).

Results from both the FGDs and the recommendation generating step indicated that future work with and investigation of the polyvictimisation concept within the DCC context would benefit from a further integration of parental characteristics such as reflective functioning, parental temperament, and mind-set, parental trauma histories (e.g. exposure to child abuse) since these factors may play an important role in relation to the occurrence of childhood polyvictimisation and the manifestation of child psychological symptoms. Employees also suggested that aspects such at ethnicity, culture, and child resilience represent important factors in the analysis and investigation of polyvictimisation and its associated child symptomatology.

These recommendations are consistent with the transactional and/or ecological models of child maltreatment and child development presented in Chapter 2, which stress

a scientific need to address various factors and levels of the child's ecology in order to understand the aetiology of child maltreatment and/or child development. Several models also highlight the important role of individual agency and characteristics, e.g. parental developmental histories, and child temperament, in courses of child maltreatment manifestation (Cicchetti & Lynch, 1993; Lynch & Cicchetti, 1998). Both these theoretical standpoints and practical perspectives thus emphasise a need for complex analytical procedures and models that account for and integrate various ecological factors spanning both the micro-system, or the proximate context of the family, and ontogenetic factors such as child-parent attachment styles, parental trauma history, individual child coping strategies etc., over exosystem components such as unemployment and macro level factors such as culturally embedded tolerance or intolerance of violence. Future analysis of polyvictimisation and related factors within the DCC context would therefore benefit from a greater inclusion of factors spanning various levels of the child's ecology such as parental developmental histories and child resilience dynamics in order to explore the role of various types of ecological influences in the manifestation of child maltreatment, polyvictimisation, and child mental health symptomatology.

Employees also described how a future exploration of polyvictimisation would benefit from a distinction in the data in terms of age by conducting an LCA on different age groups and by investigating symptom pictures for different age groups. These clinical standpoints are consistent with the recommendations provided by the systematic literature review in Chapter 4 and extant research stating the importance of a developmental sensitive approach to childhood victimisation and symptomatology (Egger & Emde, 2011; Finkelhor, 2008; Rivera et al., 2018). The results of Chapter 5, however, suggest that age was not significantly associated with class membership for boys and was

associated with only one class among the girls. As a result, an age-specific profile analysis was not conducted on the BIT data.

Recommendations were also made to develop or locate an instrument capable of assessing or screening for additional types of victimisation to increase the focus on and documentation of victimisation co-occurrence in the context of the DCC. Before locating or developing any specific tool for the assessment of polyvictimisation in the DCC, an overall discussion on and clarification of the sectoral responsibility, the institutional mandates, and the division of labour in relation to assessing, screening for, and addressing the concept of polyvictimisation in Danish cases of child abuse in the future is, however, necessary.

6.5.1 Empirically derived recommendations for future work on polyvictimisation within the DCC

The following lists the empirically derived recommendations for future work on polyvictimisation within the DCC:

- Increase awareness in terms of systematically uncovering the number of different victimisations in the life of the child
- Develop or apply a victimisation questionnaire/checklist for assessment and inclusion of additional victimisations and adversities to be used in assessment sessions and/or cross-sectoral consultation meetings (e.g. a type of ACE score)
- Include additional parental characteristics/backgrounds/histories in the data collection and analysis (e.g. reflective functioning, temperament, attachment styles, parental trauma history etc.)
- Discuss if ethnicity, cultural aspects, and refugee backgrounds can be included in the data collection and analysis to see how it impacts profiles and symptoms

- Discuss how the polyvictimisation concept can be communicated and disseminated in the final DCC reports and recommendations (for example standardised written formulations regarding the polyvictimisation concept for usage in the final report)
- Focus on collaboration with local municipality social workers in relation to the polyvictimisation concept and discuss and clarify who should be responsible for the assessment/screening of additional victimisations in the life of the child
- Increase awareness on systematic cross-sectoral knowledge exchange regarding the family in the cross- sectoral case consultation meetings e.g. by the means of standardised written formulations regarding the polyvictimisation concept in consultation meeting minutes and discuss how the knowledge on polyvictimisation from the research project can be integrated into the processes of cross-sectoral cooperation

6.6 Reflections and limitations

This phase of the study is not without limitations. Some important limitations of the self-moderated FGD method include the lack of consistency in moderation, lack of researcher control, and the risk of domination by certain participants in the discussion (Marcella, 2018). The importance of a trained moderator facilitating and structuring the group discussion, maximising diverse participant engagement, balancing group interactions, and challenging 'dominant discourses' (Marcella, 2018) are all highlighted as key approaches to the FGD method (Demant, 2006; Massey, 2011; Rabiee, 2004). This type of active involvement of a trained moderator was however, not possible when employing a self-moderated variant of the FGD technique. My absence further hindered potential intermission of dominant discourses within the groups dynamics. It also meant that

certain employee formulated misinterpretations of the results could not be explained or corrected in the group discussion sessions. Also, my absence during the FGDs meant that observational notes on non-spoken impressions from the group settings, which may have added further nuances to the analysis, were not captured.

Indeed, when listening to the FGD audio files and when reading the transcripts, some dominant discourses were noticed. I also discovered perspectives and statements across the discussion files that would have benefitted from further elaboration and clarification. Overall however, all participants engaged in the discussions and the different questions in the discussion guide were answered across all FGDs, albeit with varying levels of detail. The self-moderated FGDs was found to foster the intended 'honest' discussion forum, where employees also dared to express more critical opinions towards the results and their usability. One employee for example posed a more critical question regarding the findings from Chapter 5 in the group discussion: *But the ruder question is then why this makes a positive difference to our work?* Another employee in a different group discussion presented her honest opinion on the usability of the victimisation profiles from her professional perspective:

> *I think it's "just" some classifications and I don't think I will use it that much. I have to be honest. Because I think the next step from here will be the interesting part, where you can talk about more than just associations.*

These critical voices are important since they reflect the opinions of the 'end-users' and those who will potentially implement the final recommendations. That employees across the FGDs expressed more critical thoughts and perspectives on the usability and applicability of the quantitative results also points to reliability of the findings and evidences the importance of procedures that try to bridge the research-to-practice gap.

The current analysis did not comprehensively and independently address the social dynamic and interaction element of FGD method, which is highlighted as a crucial analytical component across the FGD research literature (Demant, 2006; Halkier, 2010). The outline of the different standpoints regarding the 'mandate dilemma', however, shed light onto the differing institutional discourses and the positioning of different participants on this issue as an indication that such social dynamics were indeed present.

Themes did not naturally emerge from the FGD data material. Instead, the use of a structured interview guide and the presentation of the quantitative data results framed and influenced the group discussions, e.g. usability of results in terms of child and parent sessions. For example, I mentioned the aspect of psychological/emotional abuse during the presentation of the quantitative results in the workshop as a scientifically interesting future point of attention. This may have primed the endorsement of this recommendation during the group exercise and FGDs.

In terms of the interview guide, one of the questions could have been formulated in a slightly more hypothetical fashion (i.e. how employees *could* use the presented findings instead of the wording *can use*) such as not to imply that the presented findings were intrinsically and automatically useful for employees. The overall impression was, however, as mentioned, that the employees felt comfortable expressing a critical perspective on the data results and their usability.

Lastly, that participants were not asked to state their professional status (e.g. psychologist, social worker) prevented any investigation and analysis of potential disciplinary differences in terms of the perceived usability, applicability, and relevancy of the results. Finally, I played an active role in terms of constructing the final themes in both the CA and TA, bringing a level of 'pre-understanding' (Bengtsson, 2016) to the analytic process. Other researchers may have identified alternative patterns and structures

in the data. Outlining various procedural thematic maps and the different analytical steps used however, speaks to the transparency and critical reflexivity used as part of the analytical process.

6.7 Conclusion

In fulfilment of the third research objective, the current phase of the study generated a number of important findings. First, results suggested that the different victimisation profiles identified in the BIT data and their associations with external variables largely corresponded to the clinical impressions and experiences of DCC employees pointing to a clinical and practical validity of the results. Second, the quantitative findings were also perceived as useful by the DCC employees in terms of supporting and bringing further weight to the clinical work, providing a general framework for understanding victimisation co-occurrence as well as offering key guidance for additional points of attention and awareness in the assessment sessions, e.g. focus on broader environmental stressors. Third, the different victimisation profiles and the supplementary analysis offered a springboard to increase interdisciplinarity and cross-sectoral focus on polyvictimisation issues during the cross-sectoral case consultation meetings in the DCC. Fourth, results however, further suggested that while DCC employees found the polyvictimisation concept important to consider within the DCC context, they faced a dilemma in terms of case complexity being misaligned to the legally defined mandate of the DCC. This dilemma further raised the issue of sectoral responsibilities and division of labour with regards to the polyvictimisation concept and further pointed to a broader discussion of the concept of 'the index trauma' or the idea of the *worst* trauma in regard to multiply-exposed individuals. Fifth, results suggested that future work with and investigation of the polyvictimisation concept within the DCC context would benefit from

a further integration of ecological factors such as parental characteristics and trauma histories, ethnicity, culture, and child resilience indicators. Finally, on the basis of the participatory exercises, a final set of recommendations were identified falling under five categories: data, assessment, final reports and recommendations, and cross-sectoral collaboration.

Chapter 7: Conclusion and implications for theory, policy, and practice

The present thesis investigated the multiplicity issue of childhood harms, also conceptualised as polyvictimisation, within a Danish child protection context, in collaboration with the DCC. The thesis addresses four important gaps in the extant literature, each of which is addressed in the current thesis by means of a multi-method study design, based on a pragmatic research philosophy, which included a systematic literature review methodology, advanced quantitative techniques and supplementary statistical analysis, and qualitative participatory methods.

First, and given the evidence from the past decades demonstrating that harmful experiences in childhood often cluster and co-occur in complex ways, as well as the existence of manifold and varying definitions, theories and frameworks through which to understand the phenomenon of multiple childhood harms, the thesis offers a synthesis of the different theoretical models present in the literature (Chapter 2, Section 2.6). Specifically, the literature contains various idiosyncratic frameworks and perspectives for describing the co-occurrence issue of childhood harms, such as polyvictimisation, ACEs, and cumulative trauma etc. Whereas some of the frameworks and concepts exclusively incorporate interpersonal harms, such as child sexual or physical abuse, others also include non-interpersonal acts, such as natural disasters and illnesses. Also, frameworks differ in regard to the timeframes for measuring exposure to childhood harms (i.e. prospective or retrospective measurement). Finally, frameworks differ in terms of whether broader environmental stressors and non-violent experiences, such as parental mental illness and parental conflict, should be conceptualised as interpersonal harms and subsequently included in a 'polyvictimisation' or related multiplicity construct, given that they also entail an element of betrayal or violation of social norms. Based on this literature and given that environmental stressors are frequently shown to co-occur with child abuse

and are important predictors of adverse mental health, the current study adopted a broad conceptualisation of interpersonal childhood victimisation supported by the MCA scheme and extant transactional and/or ecological theoretical models for the aetiology of child maltreatment and child development.

In the outline of the co-occurrence literature, different methodological approaches to the multiplicity issue of childhood harms were also discussed. Whereas a great amount of the existing literature has addressed and measured the multiplicity issue by the means of a sum-score or count-oriented approach and documented a robust dose-response relationship between the number of childhood victimisations and symptomatology levels, more recent studies have approached the co-occurrence issue by the means of more complex person-centred statistical methods. These techniques have shown to represent particularly nuanced and sophisticated investigations of the multiplicity issue of childhood harms with the potential inform treatment efforts and to tailor interventions to the diverse needs of affected individuals. Despite of the noted differences between the dominant co-occurrence frameworks and concepts, the outline of the literature showed that the exposure to multiple childhood harms, and particularly harms occurring within the immediate environment of the child committed by trusted individuals and/or acts violating social norms, represent a profound risk factor for a range of adverse health and social outcomes.

Second, the initial review of the literature identified a lack of a comprehensive systematic literature review assessing the psychopathology outcomes associated with polyvictimisation in childhood globally, and across diverse child life conditions and circumstances, including both normative and high-risk samples. Objective one of the thesis thus concerned an identification of the adverse psychological outcomes/psychopathology outcomes associated with multiple interpersonal

victimisation exposure among children and adolescents ages (0-17 years) in the international research literature. The first objective of the study was met through a systematic literature review based on searches across six literature databases and included, presented, and synthesised findings from studies applying the same standardised tool to measure childhood interpersonal victimisation (the JVQ). Findings suggest that childhood polyvictimisation, irrespective of how the construct was approached or defined (e.g. continuous, categorical or empirical construct), was positively associated with multiple forms of child psychopathology spanning both internalising and externalising problems and overall distress or general psychological impairment. These findings were observed across diverse child and youth samples, including normative, nationally representative child samples and high-risk samples, such as children in contact with the welfare system. These findings were also observed across various nations and cultures, accentuating the importance of the multiplicity issue of childhood harms globally. Another focal finding of the review was that *polyvictimisation* was shown to be a particularly strong risk factor for child psychopathology across the literature; while some individual types of victimisation, such as sexual victimisation, remained independent predictors of psychopathology across studies, the inclusion of the polyvictimisation construct reduced or abolished the associations between single types of victimisations and indicators of adverse mental health.

Third, the results of both the general literature review and the systematic literature review suggest the need for more person-centred approaches to the investigation of childhood victimisation co-occurrence with the inclusion of various levels of the child's ecology. Advanced quantitative techniques were subsequently applied to identify different sex-specific profiles of victimisation co-occurrence among male and female children assessed in the DCC on the basis of (suspected) child abuse. Supplementary

statistical techniques were further employed to illuminate the links between multiple victimisation exposure and adverse mental health outcomes and to identify which children are at especially high risk for multiple victimisation and mental health problems. Findings suggest that children assessed at the DCC represent an extremely vulnerable child group, with 85% of children having been exposed to at least one additional adverse experience in their lifetime. The high overall rates of exposure to various types of adverse life events reported within the DCC population are concerning given that the literature has consistently documented how without intervention, childhood traumatic experiences as well as externalising and internalising problems can have profound negative long-term effects for both the affected individuals, communities, and society as a whole (Horn, Leve, Levitt, & Fisher, 2019; Muniz et al., 2019; Oldrup et al., 2016). Specifically, in the DCC population, girls were more likely than boys to have been exposed to CSA and endorsed higher levels of internalising difficulties and overall psychological problems. Boys, on the other hand, were found to be more likely than girls to have been exposed to CPA and displayed higher rates of externalising problems relative to female children. These sex differences were further reflected in the various profiles of child victimisation identified in the female and male samples, whereby females were characterised by more varied patterns of childhood victimisations (five classes) compared to males (three classes). Furthermore, the analysis identified a range of multiply-exposed subgroups endorsing broader spectra of victimisations. These findings thus imply that being exposed to multiple childhood harms is not a unitary experience and that aspects such as sex should be considered when investigating the multiplicity issue of childhood harms in order to understand different manifestations and constellations of childhood harms and their ramifications.

Finally, the need for additional research addressing the more *practical* implications of the polyvictimisation concept within institutions working with cases of child abuse or *how* findings on victimisation co-occurrence can be adapted by practitioners and applied in their clinical work was addressed. Using qualitative participatory approaches and the empirically derived knowledge on polyvictimisation within the context of the DCC, the relevancy and applicability of the findings from Chapters 4 and 5 were investigated. The victimisation profiles and their associated factors were described as useful and informative by the DCC employees in terms of providing a general overview and a framework for understanding the issue of victimisation co-occurrence in the DCC cases, as well as to understand the specific constellations of victimisations and their associations with adverse mental health outcomes. Furthermore, the quantitative findings were considered useful by the DCC employees in the child assessment phase as the identified profiles were considered to offer key guidance for future additional points of attention and awareness in the assessment sessions, including a focus on broader environmental stressors such as parental mental illness or domestic violence, with children and parents. Findings also suggest that those criminalised acts, deemed particularly harmful by society, and consequently given precedence in the DCC, do not necessarily represent the most burdensome and harmful experiences of the child. These criminalised acts were typically found to represent just one part of a more complex exposure history spanning various types of childhood stressors and adverse environmental factors just as other, but non-criminalised acts, were identified as arduous experiences in the life of the child with the risk of negatively impacting child mental health. Together, the above yielded a list of employee-formulated and prioritised recommendations for how to work with the polyvictimisation concept in the DCC going forward.

7.1 Implications for theory

The results of both the initial literature review and the systematic review evidence the need for the establishment of a standardised approach to defining and measuring polyvictimisation. The current inconsistencies in methods of defining and measuring polyvictimisation across the literature severely undermine the potential impact of this body of work. Furthermore, and given that environmental stressors are likely to co-exist and co-occur with child abuse and negatively impact mental health, advanced theories would benefit from a wider conceptualisation of interpersonal victimisation, incorporating additional levels of the child's ecology as part of the polyvictimisation construct. A broader and more integrative theory for how various stressors and environmental factors concurrently impact child mental health, as proposed by the multifaceted transactional and/or ecological theoretical models (presented in Chapter 2), is therefore warranted to offer a better understanding of the links between polyvictimisation and adverse mental health, in the contexts in which children are embedded.

This study's findings of the various different constellations of risk add to a growing body of existing evidence suggesting that polyvictimisation is not a unitary phenomenon, that different typologies and sub-groups of polyvictimisation exist, and that these should be documented to identify the diverse treatment and intervention needs of affected individuals (Adams et al., 2016; Dierkhising et al., 2019; Ford et al., 2010; Greeson et al., 2011). These results further advance extant theories on victimisation co-occurrence by illustrating that polyvictimisation is not just manifested in different forms but also in different *sex-specific* constellations among males and females, respectively.

The identification of multiple, sex-specific classes within a highly vulnerable sample of children contributes to our advancement of the theoretical understanding of victimisation co-occurrence by adding an element of sex-specific differences into these

patterns of victimisation concurrence. While a great amount of the research applying the PV and ACE frameworks have included sex as part of the analytical work, future research applying these conceptual frameworks could further integrate the sex component by conducting sex-specific analysis to understand specific vulnerabilities across different groups to certain patterns and constellations of multiple victimisation. The sex component is additionally relevant to further discuss in relation to the theoretical transactional and/or ecological models of child maltreatment and development as sex may interact with a macrosystem-related acceptance of CPA as a disciplinary method and other ecological factors to foster the occurrence of child maltreatment. The identification of the respective victimisation profiles have additional theoretical implications since these findings evidence that the exposure to CSA and CPA cover heterogeneous experiences and are manifested through diverse exposure histories, whereby CSA and CPA co-occurred to varying degrees with other types of childhood victimisations. Systematic reviews focusing on the link between single forms of victimisations and mental health problems fail to recognise how these types of victimisation are likely to be configured within broader constellations of victimisations and that this web of victimisations rather than a single isolated stressor influences mental health.

Another key theoretical implication of the current study is derived from the analysis of the betrayal trauma construct. The analysis showed that while the betrayal and the relational aspects of victimisation exposures are important to consider when investigating childhood harms, the betrayal trauma factor alone cannot explain variations in child symptomatology. Instead, findings from Chapter 5 suggest that the *multiplicity* and *spectrum dimension* of exposures are particularly important factors to consider when investigating variations in child symptomatology and should be studied alongside theoretical concepts such as betrayal trauma. The results of Chapter 5 thus echo existing

theory on child victimisation co-occurrence such as the PV and the ACE frameworks suggesting that various dimensions of childhood victimisation experiences should be considered when investigating links between childhood harms and mental health outcomes, since it appears that not just accumulated risk or *counts* but also the *constellations* of victimisation and the *nature* of victimisations play important roles in the manifestations of mental health problems (Ho et al., 2020; Lanier et al., 2018; Rebbe et al., 2017). The recommended inclusion of child and parental characteristics is further supported by the transactional and/or ecological models of child maltreatment and child development presented in Chapter 2, which emphasise how investigations of childhood maltreatment and associated mental health should integrate multiple factors from both the microsystem, the exosystem, the macrosystem as well as ontogenetic dimensions since all of these factors and their interplay contribute to the occurrence of childhood victimisation and psychopathology.

Finally, the multiplicity issue of childhood harms is a highly important issue to consider in relation to post-traumatic symptomatology, given that polyvictimisation, as a concept, challenges existing clinical and theoretical procedures, e.g. the concept of the singular index trauma (Keane & Barlow, 2004), concerned with defining the worst singular event and extracting of a single traumatic experience or event as the most harmful experience and thus the cause of post-traumatic symptomatology.

7.2 Implications for policy

The findings of the systematic review point to the diverse and comprehensive treatment and intervention needs of individuals affected by multiple childhood victimisation. Since childhood polyvictimisation is likely to persist over time and cascade in adverse effects, early identification and intervention in these cases is warranted and the issue of polyvictimisation consequently merits political attention. The concept of

polyvictimisation thus requires the attention of mental health policy makers as well as practitioners and professionals working within the field of child abuse worldwide. As a group generally facing a wide range of adverse life experiences and mental health challenges, children in the DCC population are at high risk for a host of deleterious outcomes in adulthood. This group of children therefore warrants specific attention to ensure their safety and to support their healthy development. The DCC represent an important entry point for early identification and/or invention in relation to these children as the centres both collaborate with multiple other sectors and are responsible for coordinating the cross-sectoral collaboration. They therefore represent an important unit for disseminating knowledge on the multiplicity issue of childhood harms across sectors.

Another key implication for policy relates to the emerging complexity and mandate dilemma within the DCC, as an overarching issue within social service institutions. As per their mandate, the DCC focus on distinct, and criminalised, types of child abuse. Professionals however, encounter individuals characterised by complex and multifaceted exposure histories that go beyond these mandates and legally defined areas of specialisation. This juxtaposition poses a challenge to the siloed focus of social service institutions and raises important questions regarding sectoral responsibilities and division of labour. Whereas the Nordic Barnahus Model and the Danish variant, the DCC, represent a key improvement in responses to child abuse, by representing an integrative effort with focus on the needs of the child and cross-sectoral collaboration, these models of care are not immune to siloing and compartmentalisation in their approach to child victimisation. Given that polyvictimisation is a common experience for children belonging to vulnerable high-risk groups, policymakers need to be aware of the multiplicity issue of childhood harms when defining institutional demarcations and organising initiatives for abused children. The findings of the present thesis are thus

highly relevant for the political level monitoring and developing the work field of the DCC. Making policymakers aware of the presence and consequences of the co-occurrence issue is therefore paramount to providing a fully child-centred and holistic approach to child abuse - either by integrating the concept in the institutional work of the Barnahus Models or ensuring that the multiplicity and co-occurrence aspects are captured and addressed by other relevant collaborating sectors. Specifically, and since many of the victimisation profiles point to the need of broader social family interventions, policy should consider the ecological aspects such as economic problems and parental mental illness that may interact with child abuse issues and contribute additional stress factors within a family setting.

7.3 Implications for practice

Aligned with existing evidence pointing to a need to establish a standardised approach to defining and measuring polyvictimisation, is a need to cultivate and further develop tools that capture various ecological aspects of adverse experiences in childhood (Grasso et al., 2013a; Grasso et al., 2016). Given that child sexual abuse, albeit generally reduced in its predictive power, remained a significant risk factor of child psychopathology across several studies (including the current one), clinicians should pay specific attention to the issue of child sexual abuse, both as a singular form of exposure and particularly in co-occurrence with other types of childhood victimisation, especially among girls, given that they are at elevated risk for sexual victimisation. Additional well-designed, longitudinal studies with children and adolescents, that take into account the context-specific nature of polyvictimisation, e.g., the relational aspects of trauma, are also required to better establish the causal relationships between polyvictimisation and psychopathology, and to identify important social and psychological predictors of mental health outcomes so as to improve prevention and intervention efforts. Given the established associations between

polyvictimisation and internalising and externalising problems and overall psychological impairment, the design of treatment and interventions for multiply-exposed children must consider both inner-directed and outer-directed difficulties.

As findings suggest that children exposed to multiple victimisation display higher rates of mental health problems than less-exposed individuals, the literature would suggest that these individuals are at increased risk of mental health difficulties in adulthood, compared to individuals with less extensive victimisation histories (Hughes et al., 2017). Early treatment efforts are thus needed to prevent negative life trajectories of impaired mental health, particularly for those children experiencing complex patterns of victimisation co-occurrence since these children also carry the additional burden of displaying elevated rates of mental health problems in adulthood.

Together, the knowledge derived from Chapters 4,5 and 6 offer a springboard for increasing an interdisciplinary focus on the multiplicity issue of childhood harms in the cross-disciplinary work procedures of the DCC, with the cross-sectoral case consultation meeting identified as a highly relevant professional forum for addressing and potentially assessing polyvictimisation in the future. Specifically, case consultation meetings were seen as an important platform to share knowledge and information across sectors to obtain a more comprehensive mapping and understanding of the situation of the child and also towards the identification of potential risk factors and mental health outcomes to be aware of in the cases.

Moreover, as child victimisation experiences registered in BIT are likely to be underreported due to the current legal mandate of the DCC, there is a need for a more systematic assessment and registration of victimisation experiences within or in relation to the DCC work in order to obtain more precise and complete victimisation profiles and consequently, a more accurate and comprehensive understanding of the polyvictimisation

issue within the lives of children assessed in the DCC. Though a complex concept such as polyvictimisation may represent a challenge to specialised social service institutions with specific and demarcated mandates and work tasks, the DCC has unique potential for working with and addressing the multiplicity issue of childhood harms due to its cross-sectoral organisational structure (i.e. combining medical, psychological, and social efforts). Questions related to division of labour and the various sectoral responsibilities in relation to the polyvictimisation issue must however, be further clarified within this model of care.

Given that children in the DCC population are facing multiple challenges in their lives, treatment focusing on a single type of traumatic event, i.e. the referral reason, is unlikely to be sufficient to support and help these children. To uncover the number of different victimisations in the life of the child, the development or application of a victimisation questionnaire/checklist as part of the DCC assessment sessions and/or cross-sectoral consultation meetings to map additional victimisations and adversities in the life of the child (e.g. a type of ACE score) was recommended. The inclusion of additional child and parent characteristics, or ontogenetic factors such as child coping and resilience factors and parental reflective functioning, temperament, attachment styles, parental trauma history are also required to explore the influences of these factors and their potential mediating and moderating roles in relation to polyvictimisation and child mental health.

7.4 Impact of the Research

During the past three years I have disseminated the current research project at various occasions both within and outside the DCC context. Table 7.1 presents a list of research dissemination activities outside the DCC setting and a list of publications produced as

part of the project. Dissemination activities within the DCC setting are outlined in Chapter 3, Figure 3.2.

In 2018 I became a member of the Nordic Network for Barnahus Research and disseminated the project protocol to the network. I will continue to disseminate findings from the study in this cross-national research forum. In the spring of 2020 I will meet with the heads of the five DCC and present the list of employee-formulated and prioritised recommendations for how to work with the polyvictimisation concept in the DCC (Chapter 6) and engage the management level in discussions of how these recommendation can be implemented into the DCC work. As a result of the preliminary findings I presented in August 2019, and in line with the implications for policy and practice presented above, the DNBSS has further requested that I provide a list of relevant and evidence-based screening tools to potentially assess further for polyvictimisation in the DCC context. In addition, the DNBSS has asked for a set of recommendations for potential future variables to be incorporated in the BIT database, based on the results from the quantitative and qualitative study components (Chapters 5 and 6). Furthermore, the Board has invited me to disseminate the final study results at five regional meetings taking place in November 2020, involving representatives from all the Danish municipalities and police districts involved in the DCC work.

Table 7.1. Research dissemination activities

Dissemination Activity	Title	Location	Month and Year
Poster presentation	Investigating Polyvictimisation in Child Abuse Cases.	The 15th Conference of European Society for Traumatic Stress Studies, Odense, Denmark.	June 2017
Poster presentation	Multiple Adversities: Investigation of Polyvictimisation in Child Abuse Cases.	The 8th Hindsgavl Conference of The Research Network against Child Abuse, Middelfart, Denmark	September 2017
Poster presentation	A Backpack of Burdens - Investigating Polyvictimisation in a multidisciplinary Child Protection Context.	The 15th ISPCAN European Regional Conference on Child Abuse & Neglect, The Hague, The Netherlands.	October 2017
Research workshop presentation	Research in the Danish Children Centres: Investigating Polyvictimisation in Child Abuse Cases.	Barnahus Research, The Nordic Network for Barnahus Research. Oslo, Norway.	May 2018
Oral public engagement presentation	One House, multiple Helpers: How to provide a multidisciplinary Approach to Child Abuse?	Joint Trinity Centre for Global Health & Trinity International Development Initiative (TIDI) Global Mental Health Series. Dublin, Ireland.	February 2018
Oral conference presentation	Polyvictimisation, professional Partnerships and participatory Processes – Bridging research and practice in The Danish Children Centres.	The 16th European Society for Traumatic Stress Studies Conference, Rotterdam, The Netherlands.	June 2019
Oral conference presentation	Investigating Polyvictimisation in Child Abuse Cases in The Danish Children	The 3rd European Conference on Domestic Violence, Oslo, Norway.	September 2019

	Centres/ Danish Barnahus.		
Oral conference presentation	Investigation of Polyvictimisation in two clinical Samples.	The 9th Hindsgavl Conference of The Research Network against Child Abuse, Middelfart, Denmark.	September 2019
Oral conference presentation	Research Findings – Denmark.	The 35th Chadwick Conference on Child & Family Maltreatment, San Diego, USA.	January 2020
Publication	**Title**	**Journal**	**Year**
Research paper	Training the next generation of psychotraumatologists: COllaborative Network for Training and EXcellence in psychoTraumatology (CONTEXT)	European Journal of Psychotraumatology.	2018
Research paper (1st author)	Females have more complex Patterns of Childhood Adversity: Implications for mental, social, and emotional Outcomes in Adulthood.	European Journal of Psychotraumatology.	2020
Research paper (1st author)	Polyvictimisation and Psychopathology among Children and Adolescents: A systematic Literature Review.	Child Abuse & Neglect.	2020 (under review)

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Appendices A-H

Appendix A: Ethical approval of the study from Health Policy & Management/ Centre for Global Health Research Ethics Committee, Trinity College Dublin, Ireland

Coláiste na Tríonóide, Baile Átha Cliath
Trinity College Dublin
Ollscoil Átha Cliath | The University of Dublin

Ida Haahr-Pedersen
Flat 4
9 Florence Street
Portobello
Dublin 8

18 April 2018

Re: Investigating Polyvictimization in Child Abuse Cases

Application 07/2018/02

Dear Ida,

Thank you for your submission of the above proposal to the HPM/CGH REC.

The REC has given ethical approval to the proposed study.

Yours sincerely,

Prof Charles Normand
Chair of the HPM/CGH REC

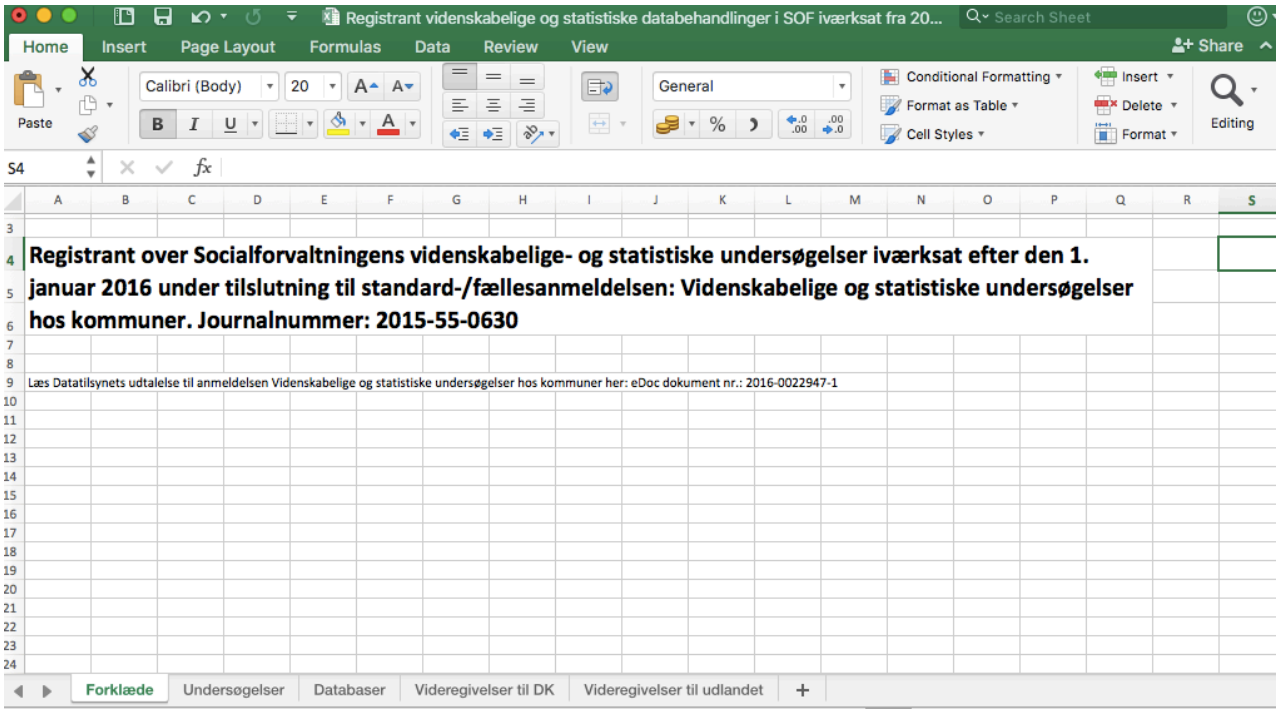
Bainistíocht agus Beartas Sláinte
3-4 Plás Foster,
Coláiste na Tríonóide,
Baile Átha Cliath,
Ollscoil Átha Cliath,
Baile Átha Cliath 2, Éire.

Health Policy and Management
3-4 Foster Place,
Trinity College Dublin,
The University of Dublin,
Dublin 2, Ireland.

+353 1 896 2201
hsmsec@tcd.ie
www.medicine.tcd.ie/health_policy_management

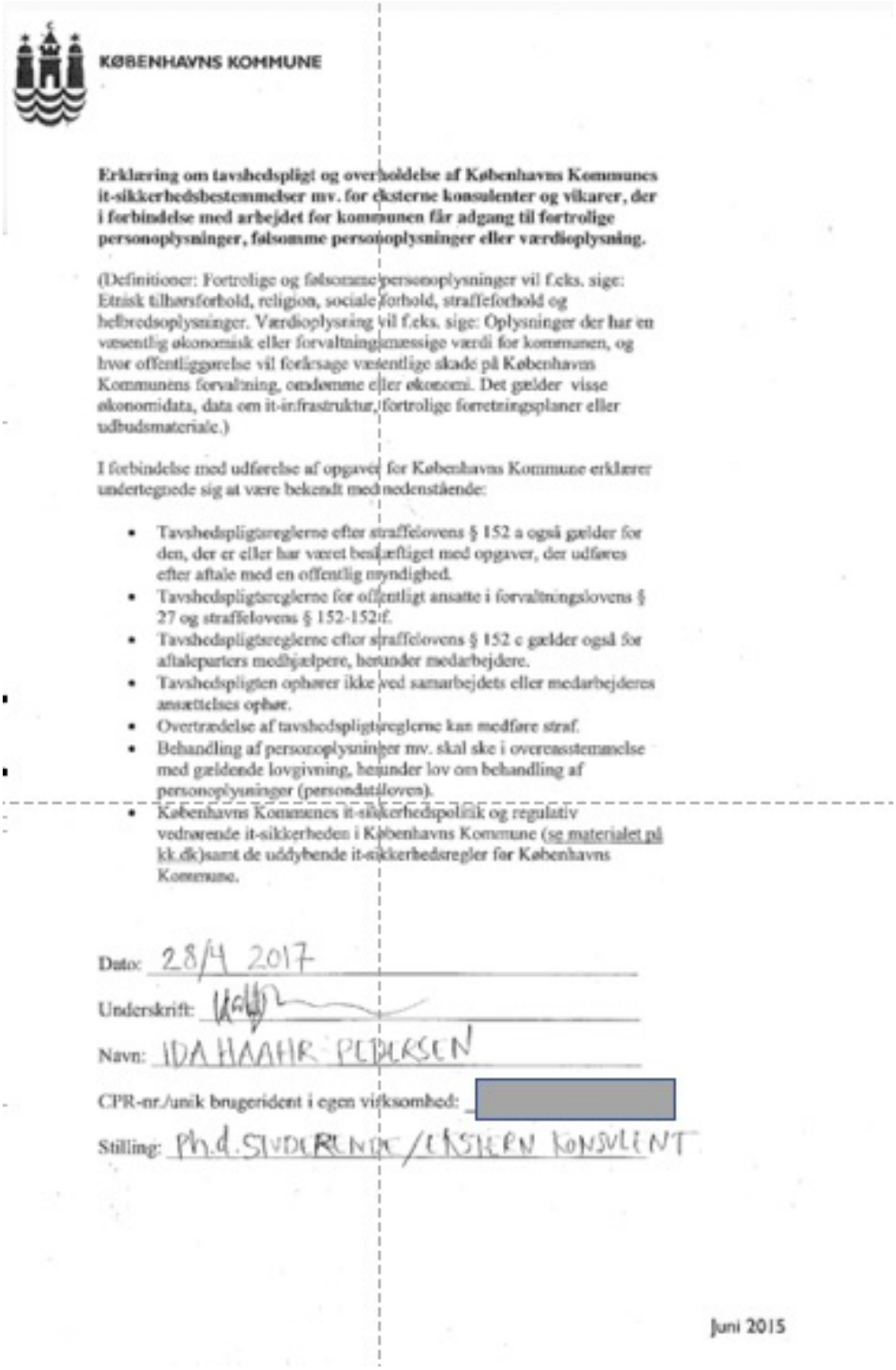
Appendix B: Document related to ethics, data protection, and data processing in Denmark:

The joint municipality research notification agreement with the DDPA. Registrar of scientific and statistical projects in The Office for Social Administration, Municipality of Copenhagen, launched after January 1, 2016, following the standard / joint notification: Scientific and statistical research projects at municipalities. Journal number: 2015-55-0630



Appendix C: Declaration of confidentiality and compliance with the IT security regulations of The Municipality of Copenhagen

Declaration of confidentiality and compliance with the IT security regulations of The Municipality of Copenhagen, etc. for external consultants and temporary staff who, in relation to the work at the municipality, access confidential personal data, sensitive personal data or valuable information.



KØBENHAVNS KOMMUNE

Erklæring om tavshedspligt og overholdelse af Københavns Kommunes it-sikkerhedsbestemmelser mv. for eksterne konsulenter og vikarer, der i forbindelse med arbejdet for kommunen får adgang til fortrolige personoplysninger, følsomme personoplysninger eller værdioplysning.

(Definitioner: Fortrolige og følsomme personoplysninger vil f.eks. sige: Etnisk tilhørsforhold, religion, sociale forhold, straffeforhold og helbredsoplysninger. Værdioplysning vil f.eks. sige: Oplysninger der har en væsentlig økonomisk eller forvaltningsmæssige værdi for kommunen, og hvor offentliggørelse vil forårsage væsentlige skade på Københavns Kommunens forvaltning, omdømme eller økonomi. Det gælder visse økonomidata, data om it-infrastruktur, fortrolige forretningsplaner eller udbudsmateriale.)

I forbindelse med udførelse af opgaver for Københavns Kommune erklærer undertegnede sig at være bekendt med nedenstående:

- Tavshedspligtsreglerne efter straffelovens § 152 a også gælder for den, der er eller har været beskæftiget med opgaver, der udføres efter aftale med en offentlig myndighed.
- Tavshedspligtsreglerne for offentligt ansatte i forvaltningslovens § 27 og straffelovens § 152-152f.
- Tavshedspligtsreglerne efter straffelovens § 152 c gælder også for aftaleparters medhjælpere, herunder medarbejdere.
- Tavshedspligten ophører ikke ved samarbejdets eller medarbejderes ansættelses ophør.
- Overtrædelse af tavshedspligtsreglerne kan medføre straf.
- Behandling af personoplysninger mv. skal ske i overensstemmelse med gældende lovgivning, herunder lov om behandling af personoplysninger (persondataloven).
- Københavns Kommunes it-sikkerhedspolitik og regulativ vedrørende it-sikkerheden i Københavns Kommune (se materialet på kk.dk)samt de uddybende it-sikkerhedsregler for Københavns Kommune.

Dato: 28/4 2017

Underskrift:

Navn: IDA HAAHR PEDERSEN

CPR-nr./unik brugerident i egen virksomhed: [redacted]

Stilling: Ph.d. STUDERENDE/EKSTERN KONSULENT

Juni 2015

Appendix D: Contact letter interview for explorative interviews med DCC employees and sectoral collaborators

Contact letter interview

Interview contact letter

Dear _____,

My name is Ida Haahr-Pedersen and I am a PhD student in the Children Centre for the Capital Region. I contact you because I would like to invite you to participate in my research project and thereby help to create important knowledge for the benefit of vulnerable children in the future.

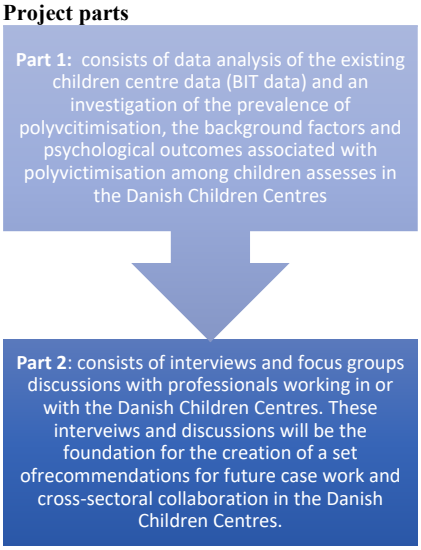
Participation in interview
I contact you because of your professional experience of working in or with the Danish Children Centres and I would therefore like to invite you to contribute to the research project - initially in the form of an interview with four themes: 1) The general children centre work, 2) the work of your sector in the children centre, 3) Cross-sectoral cooperation, 4) Complex cases of child abuse ('polyvictimization').

The interview will last approximately 1-1.5 hours and will be held in the Children Centre for the Capital Region or at your workplace as you wish

The PhD project focuses on the concept of polyvictimisation in child abuse cases, i.e. cases in which the same child has been exposed to several different forms of violence, abuse or other forms of stressors. The project is a collaboration between Trinity College Dublin, the University of Southern Denmark and the Children Centre for the Capital Region.

The aim of the project is to create a better understanding of the concept of polyvictimisation and its negative consequences in a Danish context. This knowledge is important for early detection and support of vulnerable children in the future. Part of the project consists of creating recommendations for how case management and interdisciplinary cooperation can be strengthened in the future in complex cases of child abuse.

Project parts



If you want to read more about the project, its various parts, and the framework of the interview, you can read the attached information leaflet. I will contact you again a week after you receive this email to hear if you are interested in participating an interview. If you do not wish to be contacted again, please reply to this email and let me know.

If you have any questions, please feel free to email me or contact me by phone.

Best wishes.

Ida Haahr-Pedersen

Appendix E: Information leaflet and consent forms for DCC employee workshops

Information material regarding workshop participation

Dear children centre employee

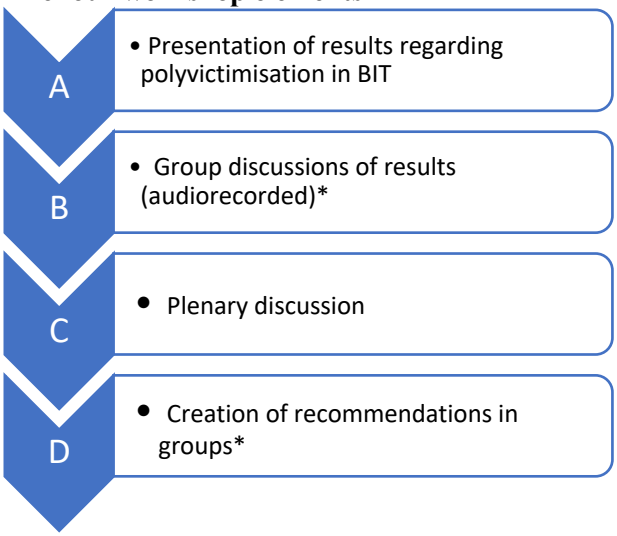
Thank you for your participation in the workshop as a part of the PhD project 'Investigating Polyvictimisation in Child Abuse Cases' The research project is a collaboration between Trinity College Dublin, University of Southern Denmark , and The Danish Children Centres. By attending the workshop, you help to create important knowledge regarding vulnerable children and youth.

About the research project

The overall aim of the research project is to create a better understanding of the phenomenon of 'polyvictimisation' among children: exposure to several different forms of violence, abuse and /or stressors in the same child. The purpose of the project is partly to create knowledge about what characterises children who have been exposed to polyvictimisation, their background and the consequences of polyvictimisation and partly to create recommendations for future work with complex cases of child abuse. The project consists of two parts (the workshop that you will attend is related to the second part of the project):

PART 1	PART 2
Identification of (poly)victimisation profiles and associated factors from the BIT data	Creation of recommendations for future case work and cross-sectoral collaboration in the Danish Children Centres (based on results from part 1)

The four workshop elements



*Materials marked with * will be used as data sources in the project

After the workshop, the recordings from Part B of the workshop will be partially transcribed by PhD student Ida Haahr-Pedersen (IHP) and the materials from group discussions and exercises will be used in the PhD dissertation. The final printed material will not include identifying information such as name, gender, age and location/geography.

Approvals

The project has been accepted under the Social Administration, the Municipality of Copenhagen's joint review for research and statistics at the Danish Data Protection Agency. The PhD student has also received ethical approval from the Research Ethics Committee at the Centre for Global Health, Trinity College Dublin in relation to conducting the study.

Risk and discomfort

There are no risks associated with participation in the study. However, there may be potential discomfort during the discussions, which focuses on interdisciplinary collaborative processes and aspects related to children's traumatic experiences. If you feel uncomfortable during the discussion, you will have the opportunity to take a break from the activity, just as you can at any time interrupt your participation or completely withdraw from the study.

Unforeseen risks: There are no other risks associated with this study, but involvement in any study may result in unforeseen risks.

Confidentiality

All materials generated as part of the workshop are kept confidential and will only be available to PhD student Ida Haahr-Pedersen via a personal drive on a password-protected computer. The group discussions (part B) will be audio-recorded and partially transcribed. Materials produced in connection with the preparation of recommendations will also be kept confidential. The transcripts and audio files will be stored securely until the end of the project, after which the material will be deleted. Alternatively, the files and transcripts will be transferred to an archive in accordance with the rules of current law.

Voluntary participation and opportunity to cancel participation

Participation in this study is entirely voluntary and if you decide that you will not participate or later regret your participation, it will not impose any sanction. You can withdraw from the investigation at any time without having to explain why. If you do not wish to attend, it will not affect your status as an employee in or collaborator with The Danish Children Centres.

Termination of your participation

In case of any of the following, PhD student Ida Haahr-Pedersen reserves the right to discontinue your participation in the study: • It is considered in your best interest to interrupt your participation. • To protect your security. • Your well-being takes precedence over the research project. • You do not comply with the requirements for participation in an interview, for example this means acting harmful in relation to the interviewer or others related to the research project. • If the study is terminated.

In the unlikely event that any of the above points occur, you will be notified and you will be informed of the reason for the suspension of your participation in the study.

Dissemination

The results of this study will be used in connection with the preparation of Ida Haahr-Pedersen's PhD thesis, which can be published in the future and the material can be used for other forms of dissemination, e.g. conference presentations. Quotes from your interview will appear without identifying information. Once the interview has been anonymised, it could also potentially be used by the PhD student for other types of dissemination (e.g. research articles) in the future.

Contacts for further information

PhD student Ida Haahr-Pedersen can be contacted regarding questions to the workshop or in relation to your rights in relation to the study. If you experience problems related to the research project, you can also discuss this with the head of The Children Centre for the Capital Region, Pernille Spitz.

Ph.D. student, Ida Haahr-Pedersen
E-mail: xxxxxxxx@tcd.ie
Telephone: xxxxxxxx

Head of The Children Centre for the Capital Region, Pernille Spitz
E-mail: xxxx@kk.dk
Telephone: xxxxxxx

CONSENT FORM CHECKLIST WORKSHOP

□ I have been informed about the research project 'Investigating Polyvictimisation in Child Abuse Cases', the purpose of the project and the various elements of the workshop

□ I have been informed that the study will result in a set of recommendations on how future case management, cross-sectoral collaboration and interventions can be strengthened in complex child abuse cases

□ I agree that part B of the workshop (discussion of results in groups) will be audio-recorded and that group discussions and exercises regarding the preparation of recommendations will subsequently be used as data materials in the research project

□ I agree that quotes from the group discussions and the recommendations (in anonymised form) can be used for dissemination and can be used in Ida Haahr-Pedersen's PhD thesis

□ I realise that I can withdraw from the workshop at any time if I am adversely affected by questions or other aspects of the research project, and I know that in such a case I can also contact the head of the Children Centre for the Capital Region, Pernille Spitz

DECLARATION

I have read the information letter for this project and I understand the content. I have had the opportunity to ask questions and all my questions have been answered. I freely and voluntarily agree to attend the workshop without prejudice to my legal, ethical and professional rights. I understand that, at any time, I may withdraw from the study and I confirm that I have received a copy of this form.

PARTICIPANT'S NAME& CONTACT INFORMATION (MAIL):

PARTICIPANT'S SIGNATURE:

DATE:

STATEMENT OF RESEARCH RESPONSIBILITY

I have presented and explained the study, its purpose and its various procedures as well as any risks to the interviewee. I have offered the participant to answer any questions related to the study and I have answered these questions fully. I believe that the participant understands my explanations and that the participant has freely given informed consent for the participation**.**

NAME OF RESEARCHER:

SIGNATURE OF THE RESEARCHER:

DATE:

Appendix F: Initial search strategy and process for the systematic literature review Chapter 4

The concept 'Polyvictimisation' is not an existing term in the Thesaurus/controlled vocabulary of the different EBSCOhosted databases chosen for this review (PsycINFO, ERIC etc.).
Using relevant controlled vocabulary in PsycINFO such as "Child Abuse", "Child Neglect", "Sexual Abuse", "Verbal Abuse", "Physical Abuse", "Emotional Abuse" and "Domestic Violence" provides a large number of hits (even with filters applied, e.g. relevant age groups): >4000.
Also, this type of search results in a broad range of studies examining different types of victimisation in isolation (mono-victimisation), e.g. the effects of sexual abuse, without addressing the scope of this specific review: the *poly*-aspect of victimisation.

To capture the *poly*-aspect of victimisation among children and youth, the search strategy therefore involves additional sources in the creation of a conceptual search framework (1.2) and consequently the search string (1.3). In addition to the Thesaurus/controlled vocabulary of the EBSCOhosted databases, relevant words/terms from existing theoretical frameworks and assessment tools have been added to conduct a comprehensive preliminary search:

The Thesaurus of PsycINFO/EBSCOhosted databases has been browsed for search terms/controlled vocabulary in relation to 'child victimisation', 'child abuse' and 'child neglect' and related terms and synonyms.
The Juvenile Victimisation Questionnaire (The JVQ): a common standadised tool used to assess for polyvictimisation/multiple types of victimisation in children and adolescents (Hamby et al., 2005) has been screened for important victimisation domain terms.
An existing systematic literature review from 2016: Polyvictimisation Among Children and Adolescents in Low- and Lower-Middle-Income Countries. A Systematic Review and Meta-analyis (Le et al. 2016) has been studied. The search strategy of the review including concepts and search terms has been screened.
The Violence Co-occurrence Framework by Hamby & Grych in 'The Web of Violence - Exploring Connections Among Different Forms of Interpersonal Violence and Abuse' (Hamby & Grych, 2013) has been reviewed. Hamby & Grych present a framework, which integrates previous terminologies regarding co-occurrence of different forms of violence and summarise alternative terms/synonyms used in the existing literature to study the concept of 'polyvictimisation' (Hamby & Grych, 2013).

Concepts: the three main concepts are explored in the exploratory phase of constructing the search string:

Concept 1: Polyvictimisation	Concept 2: Psychopathology	Concept 3: Children and adolescents (0-17 years)
Polyvictim* "Poly-victim*" "poly victim*" "Multi* victim*" "multi* crime-type victim*" "multi* form exposed" "trauma exposure*" Polytrauma "poly-trauma*" "poly trauma*" "multiple trauma*" "violence co-occurrence" "cumulative violen*" "cumulative abuse" "cumulative victim*" "cumulative adversi*" "multi* adversi*"	Concept 2 is not applied directly in the string but will been included in the Eligibility Criteria. This is done to conduct a search of psychopathology broadly to avoid missing studies investigating the relationship/association between PV and a specific defined psychopathology outcome, i.e. suicidal ideation, but do not include the overall terms 'outcome' or 'effect' in the title or abstract.	Concept 3 is not applied directly in the string but will been included in the Eligibility Criteria. Concept 3 will be applied as a filter by using the relevant age group limiters provided by the databases.

String construction in the EBSCOhosted databases
The string is consequently constructed using the terms in Concept 1 A to create a comprehensive search *specifically* capturing the poly aspect and multiplicity aspect of victimisation.
String example: TI (Title) and AB (Abstract) functions are applied and searched to ensure that the studies include the important terms as key features)Example of the search string from PsycINFO:

TI (Polyvictim* OR “Poly-victim*” OR “poly victim*” OR “Multi* victim*” OR “multi* crime-type victim*” OR “multi* form exposed” OR “trauma exposure*” OR Polytrauma OR “poly-trauma*” OR “poly trauma*” OR “multiple trauma*” OR “violence co-occurrence” OR “cumulative violen*” OR “cumulative abuse” OR “cumulative victim*” OR “cumulative adversi*” OR “cumulative trauma*” OR “multi* adversi*” OR “multi* abuse” OR “multi* violen*” OR “multitype maltreatment”) OR AB (Polyvictim* OR “Poly-victim*” OR “poly victim*” OR “Multi* victim*” OR “multi* crime-type victim*” OR “multi* form exposed” OR “trauma exposure*” OR Polytrauma OR “poly-trauma*” OR “poly trauma*” OR “multiple trauma*” OR “violence co-occurrence” OR “cumulative violen*” OR “cumulative abuse” OR “cumulative victim*” OR “cumulative adversi*” OR “cumulative trauma*” OR “multi* adversi*” OR “multi* abuse” OR “multi* violen*” OR “multitype maltreatment”)

Filters (when possible in databases)

Filters (databases)	
Type of text	Peer-reviewed
Time frame:	2005-2019
Language:	English and Scandinavian languages
Age groups:	Children (birth-12 yrs) Adolescents (13-17 yrs)
Methodology	Quantitative studies

Psychopathology

Only studies examining child and adolescent psychopathology outcomes conceptualised as negative dimensions of mental health will be selected (by manual screening).

Appendix G: Definition and operationalisation tables Chapter 5

Physical abuse acts and definition

Physical violence item	Definition: The child has been…
Pinching/squeezing/scratching	Pinched/squeezed/scratched
Slapping or smacking	Flat-hand-slapped in the face, at the buttocks or other places
Beaten with an item	Beaten with an item, e.g. a whip or a hanger, also includes if the child has been banged or slammed against the wall or floor.
Attempted strangulation	Exposed to attempted strangulation by grip, ligatures, head under water
Thermal, electric, or chemical stimulation damage	Exposed to thermal, electric, or chemical stimulation damage
Shaken, pushed, pulled and/or thrown	Shaken, pushed, pulled and/or thrown, includes e.g. hair-pulling, arm-pulling etc.
Cutting or biting	Exposed to cuts by sharp items or has been bitten
Threats of violence	Exposed to threats of violence, also includes threats of violence against others than the child, humans or animals, e.g. parent or pet. Verbal threat
Weapon threats	Threatened with a weapon item, e.g. gun or knife
Witnessing violence	Overheard or witnessed violence e.g. between parents or siblings
Fixation/strapping/tying	Fixated, strapped down or tied
Locking in/out	Locked in or out, includes if the child has been locked inside a room, locked outside the house or other place against his or her will

Source (Socialstyrelsen, 2016)

Sexual abuse/assault acts and definition

Sexual abuse/assault item	Definition: The child has been…
Vaginal intercourse	Exposed to vaginal penetration or attempted penetration by a penis
Anal intercourse	Exposed to anal penetration or attempted penetration by a penis
Oral intercourse	Exposed to oral penetration or attempted penetration by a penis
Object/finger penetration	Exposed to penetration by a finger or an object (anal, oral, vaginal).
Touching	Exposed to sexual touching or forced to sexual touching of the genitals of the

	suspected person, the child has been touched by a penis between the thighs, on the skin or other places. Forced/manipulated into touching the genitals of the suspected person (non-penetrative act)
Kissing or licking	Forced/manipulated into kissing/licking the genitals or other parts of the suspected person. Exposed himself/herself to kissing/licking at the breast, genitals, anus, mouth, neck, face or other places
Touching underneath the clothes	Sexually touching of the breast, genital, anus or other parts (not by penis or mouth) underneath the clothes
Indecent exposure	The suspected person has sexually exposed him/herself to the child. Forced/manipulated into watching/witnessing sexual activities performed by other persons, including masturbation performed by the suspected person or pornographic material
Voyeurism	Exposed to voyeurism by the suspected person while being naked or doing a sexual activity
Sexually harmful/assaulting language	Exposed to sexually harmful/assaulting language (written or verbal), e.g. via SMS or chat
Money or present	Received money or presents in return for sexual activities
Photo/film	Photographed or filmed in a sexual way. Forced/manipulated into posing or acting in a sexual way while being photographed or filmed
IT	Abused via information technologies, photos or films on the internet, tablet, cell phone, smart phone, computer). Sexualised photos or films of the child or photos/films where the child is being sexually abused (shared on the internet or by the phone). The child has received pornographic materials or has been forced/manipulated into sending/uploading sexualised photos or films of him/herself

Source: Socialstyrelsen, 2016

Household adversity victimisation and definition

Adversity victimisation item	Definition
Household alcohol or drug abuse	Abuse of alcohol or drugs by parents or caregivers
Weak labour market attachment	One or more caregivers in the home have no or a weak attachment to the labour market
Frequent moving/relocating	The home/family is characterised by frequent relocations/moving
Adult Criminality	Violent crimes (extra-familial), property crime, theft, financial crime etc.
Adult sexual assault	Parents or close relatives are sexually assaulting each other, e.g. rape of a parent
Adult mental illness	Mental illness among the parents or other caregivers
Parental conflict/High level of conflict	The parents are fighting, saying bad things about each other, refuse to talk or collaborate. Can be in the home, in relation to divorce or accommodation rights
Household sexually problematic/transgressive behaviour	The parents or other caregivers are exhibiting sexually problematic behaviours (directed towards each other or the child), e.g. watching porn when the child is present
Adult physical illness	Physical illness among the parents or other caregivers
Domestic violence	Repeated violence for a longer period of time among the parents or other close relationships

Source: Socialstyrelsen, 2016

Type of suspected perpetrator/relation between the suspected perpetrator and the child

Type of perpetrator		
Mother	Step grandmother	Acquaintance from the internet
Father	Sibling (biological)	Person in the network of the child
Stepmother	Stepsibling	Professional from leisure activity
Stepfather	Half sibling	Professional from after school activity/SFO
Foster mother	Other relative (paternal and maternal uncle, aunt, cousin)	Professional from respite care
Foster father	Person from the parents network	Professional from youth education
Former partner of a parent	Friend	Teacher/professional from school
Grandmother	Girlfriend or boyfriend (former of present)	
Grandfather	Child from foster/respite care	
Step grandfather	Professional from day care	

Child living arrangement (coded)

Child living in the home or related	Child living in an out of home arrangement
Living with the mother	Placed outside the home (own room)
Living with the father	Foster care (including foster care among relatives)
Living with both parents	Asylum centre
Living with both parents (shifts)	Institution including treatment institution
Boarding school	Crisis centre
Living with other family	Social pedagogical residential institution/residential care

Psychological screening/test instruments used in the DCC

Name of psychological screening/test instrument	Target group
DIPA- Diagnostic Infant and Preschool Assessment DIPA is a diagnostic interview that can be used by psychologists and doctors to assess and diagnose preschool children. DIPA provides the opportunity to diagnose 13 different relevant diagnoses based on the US DSM-IV diagnostic criteria including PTSD, depression, bipolar affective disorder, ADHD, behavioural disorder, abnormal separation anxiety, single phobia, social phobia, generalised anxiety, OCD, reactive attachment disorder, and sleep disorder. DIPA is divided into modules focusing on a psychiatric disorder domain.	1-6 years
OCTS – Odense Child Trauma Screening OCTS is a story-stem screening tool that can be used to assess whether children show signs of traumatisation. The test uses storytelling and guessing in a structured play interview and can investigate: 1) The child's handling of internal and external conflict situations 2) The immediate representations of the child parent-child relationships 3) Whether the child is showing signs of disorganised behaviours and attachment	4-8 years
SDQ – Strengths and Difficulties Questionnaire SDQ aims to uncover hyperactivity, inattention, social, emotional and behavioural problems through parents and teacher reports on 25 questions	2-17 years, different groups
BRIEF - Behavior Rating Inventory of Executive Function BRIEF is designed for children of different age groups. BRIEF is suitable for assessing children with learning disabilities, attention disorders, traumatic brain injury, lead poisoning, pervasive developmental disorders, depression and other developmental, neurological, psychiatric and medical conditions. 2-5 years: Executive Functions: Impulse Inhibition, Flexibility, Emotional Control, Working Memory and Planning /	2-5 years, 5-18 years

Organising. The clinical scales can be combined into three broader indices: Response and Emotion Control (Impulse Inhibition and Emotional Control), Cognitive and Emotional Control (Flexibility and Emotional Control), and Development of Metacognition (Working Memory and Planning / Organisation) 5-18 years: 8 different dimensions: impulse inhibition, visibility, emotional control, initiation, working memory, planning / organising, organisation of materials, monitoring.	
Thomas-Testen /The Cartoon Test "Darryl" – PTSD screening test The Thomas Test is a cartoon-based test, which is produced in six editions with various drawn scenarios including sexual abuse and child physical violence. The test is American, but has been translated into Danish by the Knowledge Center for Psychotraumatology at University of Southern Denmark.	7-12 years
HTQ – Havard Trauma Questionnaire. Part IV The test contains 32 questions in the Danish version that uncover the child's experience of reexperiencing, avoidance, and hypervigilance as well as other commonly occurring reactions after traumatisation.	13 years and above
TSC-26 Trauma Symptom Checklist The Trauma Symptom Checklist is a checklist that covers a wide range of trauma-related issues. The test consists of a self-report form for assessing acute and chronic PTSD symptoms and related psychological symptoms such as depressive, anxiety, dissociative, and emotional symptoms in children and adolescents who have been exposed to traumatic experiences such as physical violence and sexual assault.	8-16 years
TAT- Thematic Apperception Test TAT is a projective test for assessing personality and interpersonal relationships. TAT is the most widespread test within the story-telling tradition. The test is well-suited to elucidate some of the psychological themes that are important to the child, including the child's needs, feelings and contexts, as well as the experience of the child's interpersonal relationships. The test can typically be used in connection with assessment tasks and as part of a treatment course. The TAT consists of 31 images that the test subject must tell a story from.	5 years- 79 years
CDES-PTSI - Children's Dissociative Experiences Scale and Posttraumatic Symptom Inventory The Children's Dissociative Experiences Scale and Posttraumatic Symptom Inventory is a self-report instrument including 21 items adapted from the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986),as well as 13 items reflecting DSM-IVPTSD criteria.	7-12 years , 12-18 years
BYI-II - Beck Youth Inventories II	7-18 years

Used for screening and assessment of emotional and social problems in children and adolescents. The BYI-II questionnaire consists of different statements that touch on five different areas: Anxiety, depression, anger, norm-breaking, self-perception

(translated from Socialstyrelsen, 2019c)

Externalising and internalising symptomatology definition

Externalising symptoms	Definition
Anger/verbal aggression	The child appears angry and curses a lot
Poor impulse control	The child is lacking cognitive control over her/his emotions and actions and reacts impulsively
Externalising behaviours	The child inflicts physical pain on herself/himself or other e.g. biting, hitting, destroying things
Attention or concentration difficulties	The child has for example problems concentrating or focusing during play or other activities or the child has difficulties concentrating in school with learning difficulties as a result. The child has lost previously mastered competencies
Internalising symptoms	
Sleep disorders	The child has difficulties falling asleep, has a restless sleep or nightmares
Suicidal thoughts or suicide attempts	A condition where the child has thoughts about suicide or has attempted suicide
Sadness/devastation	The child is characterised by sadness and/or a feeling of loneliness or sudden crying fits.
Introversion/isolation/withdrawal	The child isolates herself/himself or withdraws from social contact with others
Critical self-perception	The child has critical thoughts about herself/himself and has a distorted and negative self-perception, self-esteem issues, the child is characterised by feelings of shame and guilt
Anxiety	The child appears anxious and/or worried

(Socialstyrelsen, 2016)

Appendix H: Recommendations CA coding scheme Chapter 6

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Qualitative dimension of abuse and violence subtypes and intensity	Written formulations regarding the PV concept in consultation meeting minutes and the final report	Psychological violence	To be extra aware of uncovering the amount of different victimisations in the life of the child and potentially to develop a questionnaire for assessment	Checklist/questionnaire for assessment and cross-sectoral case consultation meetings	Knowledge about the associations between functional impairment and PV	Increased attention/awareness and systematic assessment/investigation of victimisations and adversities to strengthen results from BIT
Nuanced variables	Focus on how the municipality social worker can better assess/uncover risk factors in the life on the child	Collaboration with the child and adolescent psychiatric system	That the children centre (locally and nationally) specify what the key task really is. How broad should the children centre assessment be?	Preventive work and knowledge dissemination	The role of ethnicity in relation to symptoms	A type of ACE/score assessment of other adversity factors related to the parents
Risk factors as dependent variables	Assessment of/uncover the functioning of the parents (e.g. reflective functioning and the impact in relation to PV, e.g. which implications does it have if the parent has recognised the abuse/violence	Causality in relation to abuse/violence and psychological symptoms / what causes what?	To be extra aware of including the knowledge of the other sectors regarding the family in the cross sectoral case consultation meetings and do this more systematically in the future	Focus on the degree of violence/abuse in relation to the psychological symptom picture	Addition of symptom checklist in the child start-up scheme	
	How does psychological violence affect the PV definition and how	Long term psychological symptoms				

	does it impact the profiles?					
Group 8	Group 9	Group 10	Group 11	Group 12	Group 13	
Attention/ awareness on refugee and immigrant backgrounds, cultural backgrounds, and family traumas	Ethnicity, socioeconomic status, emotional neglect, the attachment style of the parents and parental trauma history	Focus on parental adversities or traumas such as refugee background, exposure to violence and sexual abuse/assault, own educational background (e.g. disciplinary violence), ethnicity and culture	Violence and abuse subtypes	Development of assessment tools for victimisations and adversity, symptoms	Bullying, out of home placement and distinction between divorce and high conflict divorce as victimisation types	
General focus on the background of the parents: parental trauma history, cognitive resources, interactional skills	The impact of the investigative interview of on the child	Focus on how the knowledge on PV from the research project can be integrated into the cross-sectoral cooperation, including how it can be communicated in the final reports. Discussions of how the knowledge on PV can be used in relation to family interventions during the assessment period	Parental trauma history (violence, sexual assault, life threat)	Development of assessment tools for resilience factors	Victimisation screening tools, additional/ systematically use of ACE or development of new screening tool	
			Awareness of how data discipline can be optimised (operationalisation of concepts)	Include knowledge on PV in the cross-sectoral collaboration with police and most importantly the local municipalities	Child resilience	
			Special focus on PV at team meetings	Investigation of the symptom picture over time (6 months	Cross-sectoral knowledge exchange at final	

				after, a year after etc.)	case consultation meetings, Dissemination of PV in the final report, Ask the municipality social worker about additional victimisations an adversities but also a discussion about if this puts extra pressure on the municipality social worker who just got the case and might be under work pressure	
			Using the victimisation profiles in recommendations in the final reports		Increased attention on additional victimisations and adversities in assessment	
					Collaboration with the local municipalities regarding PV	

Note: PV: Polyvictimisation

Overall Category	Recommendation Category, Explanation, and colour	Employee formulated recommendations
Data	**Present data analysis** - Aspects related to the BIT data that is lacking from the current analysis on PV that could be analysed in the present data material	Qualitative dimension of abuse and violence subtypes and intensity, Focus on the degree of violence/abuse in relation to the psychological symptom picture, Violence and abuse subtypes Knowledge about the associations between functional impairment and PV Risk factor variables as dependent variables
	Future data analysis - Aspects related to data analysis that are not possible to investigate in the current BIT data material but are recommended be the employees as important focus points for future data analysis related to PV concept	Nuanced variables, Awareness of how data discipline can be optimised (operationalisation of concepts) Causality in relation to abuse/violence and psychological symptoms / what causes what?, Long- term psychological symptoms, Investigation of the symptom picture over time (6 months after, a year after etc.) Additional victimisation/adversity types: Bullying, out of home placement and distinction between divorce and high conflict divorce, socioeconomic status, emotional neglect, psychological violence, How does psychological violence affect the PV definition and how does it impact the profiles? The impact of the investigative interview of on the child, Child resilience, Parental characteristics/background (see assessment paragraph) Ethnicity and culture (see assessment paragraph)
Assessment	**Tools/instruments for systematically screening and/or assessing for PV and related**	To be extra aware of uncovering the amount of different victimisations in the life of the child and potentially to develop a questionnaire for assessment and potentially to develop a questionnaire for assessment,

	factors (symptoms, resilience etc.) in the DCC in the future	Checklist/questionnaire for assessment and cross-sectoral case consultation meetings, Increased attention/awareness and systematic assessment/investigation of victimisations and adversities to strengthen results from BIT, Increased attention/awareness and systematic assessment/investigation of victimisations and adversities to strengthen results from BIT, A type of ACE/score assessment of other adversity factors related to the parents, Development of assessment tools for victimisations and adversity, Victimisation screening tools, additional/systematically use of ACE or development of new screening tool, Increased attention on additional victimisations and adversities in assessment Addition of symptom checklist in the child start-up scheme, Development of assessment tools for symptoms Development of assessment tools for resilience factors
	Focus on parental characteristics and backgrounds	Assessment of/uncover the functioning of the parents (e.g. reflective functioning and the impact in relation to PV, e.g. which implications does it have if the parent has recognised the abuse/violence, the attachment style of the parents and parental trauma history, Focus on parental adversities or traumas such as refugee background, exposure to violence and sexual abuse/assault, own educational background (e.g. disciplinary violence), General focus on the background of the parents: parental trauma history, cognitive resources, interactional skills, Parental trauma history (violence, sexual assault, life threat)
	Focus on ethnicity and culture in relation to PV	The role of ethnicity in relation to symptoms, Attention/awareness on refugee and immigrant backgrounds,

		cultural background and family traumas, ethnicity, ethnicity and culture
Final reports and recommendations	Focus points related to **DCC work tasks, primarily final reports and recommendations** (psychologists and social workers)	Written formulations regarding the PV concept in the final report, how can the PV concept be communicated in the final reports, Dissemination of PV in the final report, Using the victimisation profiles in recommendations in the final reports Preventive work and knowledge dissemination Special focus on PV at team meetings
Cross-sectoral collaboration	Aspects related to future work with the PV concept in the **cross-sectoral work procedures** of the DCC	Focus on how the municipality social worker can better assess/uncover risk factors in the life on the child, Ask the municipality social worker about additional victimisations an adversities, Collaboration with the local municipalities regarding PV Collaboration with the child and adolescent psychiatric system To be extra aware of including the knowledge of the other sectors regarding the family in the cross sectoral case consultation meetings and do this more systematically in the future, Cross-sectoral knowledge exchange at final case consultation meetings, Written formulations regarding the PV concept in consultation meeting minutes Focus on how the knowledge on PV from the research project can be integrated into the cross-sectoral cooperation, Include knowledge on PV in the cross-sectoral collaboration with police and most importantly the local municipalities Discussions of how the knowledge on PV can be used in relation to family interventions during the assessment period

Other	**More overall points of discussion**	That the children centre (locally and nationally) specify what the key task really is. How broad should the children centre assessment be? A discussion about if this (PV) puts extra pressure on the municipality social worker who just got the case and might be under work pressure

Note: PV: Polyvictimisation