COGNITIVE DISSONANCE AND DEPRESSION: AN EXPLORATION USING MIXED METHODS

A thesis submitted to the University of Dublin, Trinity College for the

Degree of

Doctor of Philosophy

2020

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Declaration

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Summary

Background

Depression is a debilitating mental health problem in which inner conflict plays a major role. How a person experiences and resolves inner conflict has been well developed in cognitive dissonance theory. The use of dissonance theory has remained mostly limited to the field of social psychology and the link between depression and dissonance theory is largely unexplored. By researching the application of cognitive dissonance theory to experiences of individuals with depression it may be possible to expand our understanding of depression.

Aims

The overall aim of this study was to explore how the process of depression might be related to the mechanism of cognitive dissonance. The objectives of the study were: to identify and compare episodes of cognitive dissonance in two participant groups (depressed and non-depressed), to analyse how different elements of cognitive dissonance are experienced by participants, and finally to develop a conceptual model that illustrates the potential relationship between depression and dissonance.

Methods

This study used a mixed-methods approach involving two participant groups (a depressed cohort, n=15 and a non-depressed comparison group, n=15). The data was collected using quantitative tools for depression (CESD-10, Andresen et al. 1994) and for dissonance (DiEL questionnaire, De Vries et al. 2015), and semi-structured qualitative interviews, and was analysed using statistical analysis and template analysis, respectively. Full ethical approval was obtained.

Findings

The quantitative data confirmed that participants in the depression cohort scored significantly higher on the depression scale. However, the dissonance tool revealed no difference between groups in sensitivity to dissonance. There were several qualitative differences observed between the groups in the source, experience, and means of reduction of cognitive dissonance conflict. The qualitative findings also showed that the depressed participant group experienced dissonance that was based on more serious life events. The non-depressed group displayed

both a greater frequency and variety of inner conflict resolution strategies than the depressed participant group.

Conclusion

This study's findings suggest that cognitive dissonance theory can help to further understand the experience of depression and may have implications for future depression research, clinical interventions, and psychoeducation.

Acknowledgement

I would firstly like to thank my supervisor Dr Jan De Vries, without whom this PhD would not have been possible. Your constant support and guidance, both academically and personally has brought me through this whole process.

I would also like to thank Professor Agnes Higgins for her insights and feedback. Your advice, both theoretical and practical, has been an invaluable resource.

I would like to thank the School of Nursing and Midwifery for the 1252 school stipend that made this PhD possible. I would like to thank all the school staff members for helping me along the way.

I would like to thank all the participants who took part in this study for their time and for sharing their stories.

I would like to thank the clinical gatekeepers who were instrumental in this study for their time and generous support.

I would like to give very special thanks to my parents, Tom and Phyl. Your encouragement, support, and faith in me has been unwavering. This thesis could not have happened without you.

Finally, I would like to thank my wife and soulmate, Jessica Olivia Cox. Your love and support make everything possible.

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1: An Overview of the Thesis

This chapter presents a general introduction to the study and an overview of the thesis. The chapter serves to introduce the reader to the topic and how it was selected. This chapter also serves as an introduction to the theoretical motivation for investigating the experience of inner conflict in depression in terms of cognitive dissonance theory.

I have been interested in the area of inner conflict and cognitive dissonance theory since 2011 when I joined my supervisor Dr. Jan De Vries on a neuroimaging research project investigating the neural substrates of cognitive dissonance induction (De Vries, Byrne, & Kehoe, 2015). I was fascinated by the topic and impressed with its explanatory power. I had become familiar with several areas of potential application including health behaviour change, conflict resolution, and various areas of mental health. While exploring these topics I became aware of parallels between cognitive dissonance theory and depression. In particular it appeared that one of the most prominent symptoms of depression, rumination, bears a resemblance to the unresolved conflict described by dissonance theory. Cognitive dissonance theory describes how people experience and attempt to reduce self-related inner conflict. This led me believe that cognitive dissonance might possibly inform depression theory by adding an explanatory dimension to understanding how depression is perpetuated. By establishing this link I hoped to be able to describe depression in terms of cognitive dissonance theory and illustrate this in a dissonance model of depression that may impact on the theory and practice in the understanding and treatment of depression.

1.1 Depression

The term depression is commonly used to denote periods of low mood that most people experience from time to time, as a natural part of life. A major 'depressive episode', however, is a clinical label that is used in the diagnosis of an experience of ongoing symptoms which include a persisting low mood, lack of energy, and feelings of hopelessness, among others. In depression, these symptoms persist to the extent of having a significant and debilitating effect on a person's ability to work, socialise, and maintain personal relationships (American Psychiatric Association, 2013). Depression is a debilitating psychological condition that affects a person's thoughts, behaviour, emotions, and causes much anguish to its sufferers. According to the World Health Organisation (WHO), more than 350 million people worldwide suffer from depression (WHO, 2016). Depression is the leading cause of disability worldwide and is

considered by the World Health Organisation to be a major contributor to the overall global burden of disease. If depression is left untreated, it can lead to suicide (WHO, 2016). Figures published by the American Foundation for Suicide Prevention state that over 50% of all people who die by suicide in America suffer from major depression (American Foundation for Suicide Prevention, 2017)

1.1.1 The experience of depression

Depression symptoms are generally grouped in terms of physical, emotional, cognitive, and motivational. Physical symptoms include changes in appetite and sleeping patterns. Emotional symptoms include feelings of sadness and anhedonia (absence of pleasure). Cognitive symptoms include negative views of oneself and a sense of hopelessness. Other cognitive symptoms include difficulties with concentration and memory. And finally, motivational symptoms include passivity and difficulty initiating activities.

There are several symptoms of depression in particular that have a key relevance for the present study. One such symptom is the fatigue or a loss of energy that is common in depression. This symptom is not however simply a feeling of lethargy. It is a pervasive experience that can affect the person not only physically but emotionally and cognitively (Fava et al., 2014; Targum & Fava, 2011). Physical symptoms include tiredness and a reduction in physical energy that leads to reduced activity. The cognitive effects of fatigue include decreased attention and focus that manifests as slowed thinking. The emotional effects include a broad range of symptoms from reduced motivation and an aversion to effort, to feelings of being overwhelmed.

Another key symptom is depressive rumination. Depressive rumination is a negative and unproductive thought cycle from which the person can have difficulty breaking away. During a rumination cycle the person is focussed on the possible causes and consequences of one's distress, rather than possible solutions (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Rumination manifests itself as a period where the depressed individual dwells unrelentingly on negative thoughts that go around their mind as if on a loop.

1.1.2 Treatment of Depression

Depression is typically treated though psychological therapy (particularly cognitive behavioural therapy) or antidepressant medication or a combination of both. A full description of depression treatments is presented in the following chapter. It is important to note that while a combination of these two therapeutic approaches is in many cases the most potentially successful method of managing depression, they are not effective in all cases. The shortcomings to these approaches are addressed in the following chapter. Part of the motivation of the present study is to suggest how cognitive dissonance theory might be able to complement further expand current understanding of depression and provide recommendations for more effective treatments.

1.1.3 Depression and inner conflict

The identification and resolution of inner conflict has long been a mainstay of psychotherapy in the treatment of psychological disorders such as depression. Unconscious conflict, i.e., conflict that is outside a person's awareness, has been studied by the so-called 'depth psychologies' since the late nineteenth century. The depth psychologies are a group of psychoanalytic approaches to psychotherapy and psychological research that focus on the unconscious mind. The unconscious mind consists of mental processes which occur automatically and are not easily available to our conscious awareness but can nevertheless influence the judgements, feelings, and behaviour of people in general (Wilson, 2002). The most famous of the depth psychologies is Psychodynamic Theory (Freud, 1899, 1923). Psychodynamic theory proposes that the human psyche/mind is made up of the tripartite organisation of the 'Id', 'Ego', and 'Superego'. Freud (1923) proposed that these three components of the psyche are naturally at odds with each other and that this oppositional dynamic is creates inner conflict. Psychodynamic theory proposes that this conflict leads to a subduing of certain impulses or desires in a process known as repression. Repression, according to psychodynamic theory is what causes psychological maladies such as symptoms of depression and anxiety (Horney, 2013). Psychoanalytic theory grouped these symptoms and attached the somewhat vague label 'neurosis'. Neurosis was a general and imprecise category of mental illness by today's diagnostic standards. It is a collective term that includes symptoms of depression, anxiety, stress, and obsessive behaviour. Freud believed that these symptoms had at their most basic cause, conflicting thoughts. The resolution of this unconscious conflict lies at the heart of psychoanalytical therapy.

According to psychoanalytic theory, the failure to resolve inner conflict leads not only to the dysfunctional state of repression but also generates a need in people to rationalise. If a person is not willing or able to attribute their behaviour to rather unpalatable motivations, they might instead invent an alternative explanation. To illustrate this with an example from Freudian (Oedipal) theory, a person might attribute their love for a person to some romantic or attractive inner quality, rather than because are reminded of some trait of their mother. While serious interest in psychoanalysis as both a credible psychological theory and as a form of psychotherapy has waned over the years, it leaves behind it a strong legacy. Freudian concepts still permeate the collective conscious. Terms such as unconscious mind, repression, and even Oedipus complex are still commonly used in everyday language.

The concept of inner conflict has remained however a central role in the development of psychotherapy. As depth psychology (specifically Freud's psychoanalysis) waned in popularity, from the 1960's the humanist movement rose to prominence as both a psychological theory and a psychotherapy. Humanistic psychology is a perspective that emphasises the study of the person as a whole (also known as Holism). The humanistic perspective proposes that an individual's behaviour is connected to their feelings and their self-image. The key contrast here is that unlike psychoanalysis, humanistic psychotherapy helps clients address thoughts that are consciously attainable to them and does not focus on the unconscious mind. Humanistic therapy deals with thoughts and feelings, rather than childhood experiences and repressed tendencies that supposedly stem from the unconscious mind. Carl Rogers (1959) in particular describes the source of internal conflict in terms of 'congruence' and 'incongruence' between an individual's self-concept and their experience, and is explained here.

Central to Rogers' theory is the notion of self-concept. He describes self-concept as the organised and consistent pattern of perceptions and beliefs that one has about oneself (Rogers, 1959). A person's self-concept is comprised of a combination of their experiences and their interpretations of those experiences. Rogers also makes the distinction between the 'ideal-self' and the 'real-self'. The ideal-self is essentially the person that one would like to be, as opposed to the person that one actually is (the real-self). Rogers suggests that the ideal-self is just that, an ideal, something that is unattainable and not real. It is something for which we all strive. A standard that we cannot meet. The discrepancy between the real-self and the ideal self is what Rogers calls Incongruence. Rogers proposed that a certain amount of incongruence is a natural part of the human condition and manifests itself as dissatisfaction

and psychological distress. In the extreme however, acute incongruence, (i.e., great inconsistency between the ideal self and the real self) may lead to maladaptive coping mechanisms such as denial and distortion. These defence mechanisms act as techniques to protect one's self-esteem. An individual may distort or deny reality in order to protect their feelings about themselves. Studies have shown that high levels of incongruence contribute to the formation and maintenance of psychopathological symptoms (Berking, Grosse Holtforth, & Jacobi, 2003; Grosse Holtforth & Grawe, 2003).

1.2 Consistency Theories

Congruence, in the Rogerian sense, is an example of what is known in Psychology as 'Cognitive Consistency'. The desire to maintain consistency between thoughts has long been recognised as a fundamental drive by social and cognitive psychologists. Research in this area has given rise to several theories of cognitive consistency that have their beginnings in a number of seemingly unrelated research areas (Eagly & Chaiken, 1993). Research into topics such as attitudes, person perception, prejudice and self-evaluation have all produced similar versions of cognitive consistency theory (Leon Festinger, 1957; Heider, 1958; Miller, 1944; Osgood & Tannenbaum, 1955; Piaget, 1951; Rosenberg, 1979). A summary of the most influential of these consistency theories is presented in the next chapter (Chapter 2 – Theoretical Background). What each of these theories share is empirical support for the finding that we as individuals have a drive towards consistency in our thinking. Each of these theories articulate cognitive consistency in different ways. Carl Rogers refers to consistency in terms of 'congruence', whereas Heider (1958), for example, refers to consistency in terms of 'balance'. Both theories are referring to cognitive consistency but refer to it using differing terminology.

1.2.1 Cognitive Dissonance theory

By far the most influential of the consistency theories is Leon Festinger's Cognitive Dissonance theory (1957). Since its original inception it has gone through several revisions and continues to be developed and further refined (Aronson & Mettee, 1968; Cooper & Fazio, 1984; Harmon-Jones, Harmon-Jones, & Levy, 2015). Like other consistency theories, Festinger's theory states that people are generally motivated to maintain a cohesion or stability in their beliefs, values, and behaviours in order to avoid a psychologically unpleasant 'tension state'. This tension state typically manifests itself as a negative emotional reaction (guilt, regret, shame, etc.). According to the theory, dissonance is said to occur when a person has two related thoughts

that contradict each other. Specifically, a person will experience cognitive dissonance when one of the thoughts implies a contradiction of the other. Cognitive dissonance can be illustrated by any number of simple examples. For example, imagine a person receiving the wrong change after a transaction in a shop. Imagine that they receive change of fifty Euro, when they only paid with twenty Euro, and they fail to correct the error. In this case there is an inconsistency between the person's actions/behaviour and their beliefs about honesty and decency. The two contradicting thoughts would be 'I am an honest person', and 'I did a dishonest thing'. In this example, the dissonance is created by the contradiction between the two thoughts. The resulting psychological uneasiness would be experienced as a negative emotional reaction such as guilt, regret, or shame over not doing the right thing and returning the extra money.

1.2.2 Depression and Cognitive dissonance

The reduction and resolution of cognitive dissonance is a cognitive experience that generally occurs automatically. Studies such as Lieberman, Ochsner, Gilbert, and Schacter (2001) have demonstrated that cognitive dissonance reduction occurs effortlessly and may not necessarily be consciously experienced. But this however is not always the case. What happens if an experience of dissonance is not resolved or effectively reduced? This might occur perhaps if the mode of dissonance reduction is ineffective or if, due to situational circumstances, the dissonance my not be easily resolved. In theory, this situation would resemble the rumination that is seen as a cognitive symptom of depression. This is one example of an aspect of the potential overlap between the areas of depression and dissonance that this study seeks to elucidate

1.3 The proposed Study

The purpose of this study is to explore how cognitive dissonance is experienced and reduced in a depressed and comparison (non-depressed) group. An investigation into the theoretical background in Chapter Two will identify any conceptual overlap that exists between dissonance theory the psychological theories most relevant to depression. This study will attempt to use dissonance theory to describe and frame experiences of inner conflict in both depressed and non-depressed individuals.

It is thought that by exploring the experiences of inner conflict among a depressed sample group it will be possible to identify stages of the process through which unresolved dissonance

continues/perpetuates to the point of rumination. If these stages/processes could be identified, they could potentially be arranged into an explanatory model. This model would potentially include: an arousal stage (dissonance induction), an unsuccessful attempt at reducing the dissonance, continued dissonance that requires a sympathetic activation, a decrease in energy potentially to the point of physical and mental exhaustion, and a thus a continuing cycle of unresolved cognitive dissonance.

1.3.1 Research aims and objectives

The overall research focus of this study is to explore how cognitive dissonance relates to depression. The study aims to identify whether and in what ways cognitive dissonance is experienced in individuals with and without a diagnosis of depression. The specific objectives for the study are as follows:

i. To develop a conceptual model that relates mechanisms of cognitive dissonance to depression.
ii. To identify in interviews episodes of cognitive dissonance in two participant groups, with and without a diagnosis of depression.
iii. To analyse how different aspects of cognitive dissonance, which are part of the model (induction, experience and reduction efforts) are experienced by the two groups.
iv. To make a comparison between the two groups in regard to their experience of cognitive dissonance:
    a. In their response to every day dissonance inducing scenarios
    b. In their response to the interview

1.3.2 Selecting mixed methods

The study employed a mixed methods approach that combined questionnaire data with data from semi-structured interviews. The decision to use a combination of methodological approaches was based on a desire to widen the scope of the overall research aim.
Mixed methods is a pragmatic approach to research that allows the researcher to combine quantitative and qualitative data. Given the exploratory nature of this study, I felt that it was appropriate to combine methodological approaches. After examining the different types of mixed methods approaches, I decided to opt for concurrent triangulation methodology for a number of reasons. Because there is a qualitative component, it allows the participant to

describe their experience in their own words. This provides a rich window of insight into the nature of the participant's experiences of inner conflict.

1.3.3 The Language used in this thesis

When one talks about mental health issues such as depression, the very words one uses immediately places them in the camp of one of several perspectives. For example, words such as 'symptoms' and 'disorder' may suggest a biomedical perspective of health and illness. The biomedical perspective is a framework that sees illness in terms of pathologies of the body. To use an analogy, it views a person as a machine and illness (physical or mental) as damage to, or a breaking down of that machine. It is my contention that health and illness should be considered in terms of a convergence of not only biological but psychological and social factors too. This is especially important in the case of mental health due its less observable and intangible nature. Throughout this thesis, I will use language that might suggest a biological pathological perspective that is indicative of a biomedical perspective. This is however due to the nature of the research findings and the assumptions that such research is based upon. The subject of this thesis is being written from a holistic perspective. The Nursing and Midwifery Board of Ireland recognises that holism in healthcare is grounded in an understanding of the social, emotional, cultural, spiritual, psychological and physical experiences of patients, and is based upon the best available research and experiential evidence (NMBI, 2015).

1.4 Overview of the Thesis

Chapter Two presents an introduction to the theoretical background of the present study. This will include a description of the various perspectives through which depression is conceptualised and how it is treated. The chapter will describe the development of cognitive dissonance theory and the potential conceptual relevance that it holds for depression theory and treatment.

Chapter Three presents a review of the literature that exists where the link between depression and dissonance is its primary focus. This chapter will consist of the application of a systematic methodology to a narrative review. Each of the findings of the literature search will summarized, critically analysed and be followed by a discussion of the relevance to the present study's central question.

Chapter Four presents the methodological issues around the present study. This chapter will describe the methodological framework upon which the present study is based upon. This will include a discussion of the philosophical underpinnings and the research paradigm that was found to be most appropriate to the present study. This chapter will also present the methods that were used to collect and analyse the research data.

Chapter Five presents the analysis and the research findings of the present study.

Chapter Six presents a discussion of the research findings. This will include a discussion of the findings in context of the existing literature which will be followed by the strengths and weaknesses of the study. Implications of the findings of the study will be discussed followed recommendations for future research.

2: Theoretical Background

This chapter presents the theoretical underpinnings of the study. Its aim is to build on the succinct introduction in chapter one to explore in more detail the relevance of mechanisms related to inner conflict as put forward in cognitive dissonance theory (Festinger 1957) for the understanding of depression. This is done with reference to three broad psychological perspectives, Rogers' (1959) perspective on (in)congruence and the self, Beck's (1967) cognitive theory, and stress theory and burnout by Selye (1956) and Maslach (1986), respectively. It will be argued that each of these approaches incorporates elements of disequilibrium, imbalance, or inner conflict to explain mental health problems and in particular depression. Eventually, it will be contended that cognitive dissonance theory potentially provides an integral framework, incorporating the core aspects of each of the models and unifying them into an explanatory approach to the occurrence and persistence of depression. The chapter begins with a more general overview of perspectives on depression, after which the three approaches mentioned are addressed. Following this, a discussion is included on how cognitive dissonance theory provides a meaningful and plausible perspective on development, process and ways of coping with depression.

2.1 The development of perspectives on depression

The earliest detailed descriptions of what is now known to be depression appeared in the second millennium BC in Mesopotamia, an ancient region of South-West Asia (Reynolds & Kinnier Wilson, 2014). These early writings refer to depression as 'Ašašu' being a disorder of the spirit, rather than the body or the mind (Reynolds & Wilson, 2013). As such, it was treated by shamans rather than physicians (Schimelpfening & Gans, 2018). The belief that evil spirits were the cause of physical and mental disorders including depression persisted throughout many cultures in history including the Ancient Greeks, Romans, Chinese, Babylonians, and Egyptians (Nemade, Staats Reiss, & Dombeck, 2013). Treatments for what would come to be known as depression ranged from plant-based pharmacology (Reynolds & Kinnier Wilson, 2014) to starvation, and even beatings (Schimelpfening & Gans, 2018). One extreme intervention involved the drilling a hole in an individual's skull, a process known as trepanation. It was believed that this crude surgical process would allow evil spirits that were trapped within the person to escape (Arnott, Finger, & Smith, 2005).

Early Roman and Greek physicians were among the first to reject ancient belief that mental illness was caused by supernatural possession and instead sought more natural explanations. Hippocrates (460-377 BC) suggested that depression, or what the Greeks called 'melancholia', was caused by an imbalance of four fluids called 'humors' that comprise the human body (Varga, 2013). The four humors are black bile, yellow bile, phlegm, and blood. According to humoral theory, when these humors were present in the body in balanced proportions, a person is said to be healthy. Illness then was attributed to a state of humoral imbalance (W. A. Jackson, 2001). Melancholia was specifically attributed to an excess of black bile. The word 'melancholy' itself comes from the Greek 'melaine kholé', meaning black bile (Varga, 2013). According to Hippocrates, balance could be restored to these humors through a combination of treatments that included blood-letting, baths, exercise, and diet (Nemade et al., 2013).

After the fall of the Roman empire in the 400s AD, explanations for what caused mental illnesses such as depression were again dominated by supernatural and religious beliefs, particularly Christianity in Europe (Nemade et al., 2013). By the 14th Century, the Renaissance had begun in Italy and spread throughout Europe during the 1500s and 1600s. This period brought with it mixed interpretations and explanations for mental illness. On the one hand the period was characterised by a demonization of the mentally ill which resulted in witch-hunts and executions (Schoeneman, 1977). On the other hand, there was also a return to a more rational view influenced by ancient Greece that the mentally disturbed were ill and in need of medical help (Foucault & Dreyfus, 1987). Melancholia later became associated with the more modern idea of melancholy or despair beginning with the publication of The Anatomy of Melancholy in 1621, by Richard Burton (Paykel, 2008). The text outlined both social and psychological causes of melancholy such as poverty, fear, and loneliness. Potential treatments of depression are also outlined in the text, such as diet, exercise, purgatives (that clear toxins from the body), blood-letting, herbs, and music therapy (Schimelpfening & Gans, 2018). With the exception of those approaches to depression that attributed its cause to possession by spirits or the devil, most early perspectives included the element of disequilibrium or imbalance either in a physiological or a mental sense. This principle has remained at the core of much of our understanding of depression today. It can be seen in the modern day 'chemical imbalance' theory of depression that conceptualises depression in terms of a deficiency of chemicals in the brain. The 'monoamine hypothesis of depression' is described below in section 2.2.

Currently, the study of depression is complex and fraught with conceptual disagreements. At a basic level, the cause and treatment of depressive disorders such as major depression and bipolar disorder can be viewed through several different perspectives which, in turn, depend on broader ideologies of the very concepts of health and illness. One such ideology that views depression purely in biological terms is the biomedical model. According to the biomedical model, depression is best understood as a result of physiological pathologies. In contrast, the bio-psycho-social perspective (figure 2.1) views depression in terms of a convergence of biological, psychological, and social factors. This more holistic approach is supported by many critics of the biomedical status quo (Gask, 2018; Hatala, 2012). The distinction between the biomedical perspective and the bio-psycho-social perspective is part of a broader discussion on how health and illness, and therefore also mental health and distress, is best understood. The perspective through which depression is viewed influences which interventions or preventative measures are deemed most appropriate. Conversely, treatment approaches have affected, if not spawned, specific perspectives on depression. In an attempt to provide a comprehensive overview, a more detail review of the biomedical perspective with be provided followed by the psychological theories.

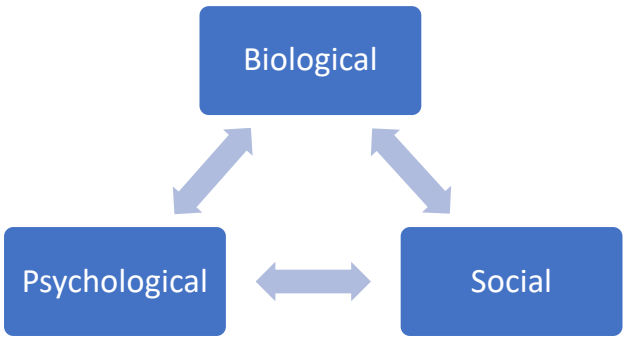

Figure 2.1: The Biopsychosocial Model of Health and Illness

2.2 Biomedical perspectives on depression

Healthcare practice and policy is generally considered to be dominated by the biomedical model, that is, a theoretical framework that sees illness purely in physiological terms (Department of Health and Children, 2006). The Diagnostic Statistical Manual of Mental Disorders (currently in its fifth edition, DSM-5) which is published by the American Psychiatric

Association describes the criteria necessary for the diagnosis of all mental disorders, including major depression (American Psychiatric Association, 2013). Major depression appears as a member of the Depressive Disorder category, which also includes Bipolar Disorders, Dysthymic Disorder, Cyclothymia, and Depressive Disorder Not Otherwise Specified (Nemade et al., 2013).

Since the 1950's, depression has been widely considered, from a biomedical perspective, to be due to a deficit in the activity of a type of neurotransmitter called monoamines. This has become known as the monoamine hypothesis of depression. Monoamines are neurotransmitters that include Serotonin, Dopamine, Adrenaline and Noradrenaline, which are thought to modulate mood and behaviour. These neurotransmitters are at the source of the so-called 'chemical imbalance' theory of mental illness, a belief that is reminiscent of the humoral theory of the ancient Greeks. It is widely thought that psychiatric conditions can be improved by addressing the hypothesised neurochemical imbalance. Pharmacological interventions for depression aim to increase the activity of monoamine neurotransmitters, in particular serotonin, which has been identified to play a key role in mood balance (Coppen, 1967). The three main types of pharmacological interventions are: monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants, and selective serotonin reuptake inhibitors (SSRIs). MAOIs are theorised to work by inhibiting the enzyme activity that causes monoamines to breakdown in the brain. This process extends the duration of time serotonin is active, which is thought to benefit the person's mood. MAOIs are considered to be particularly effective in treating atypical depression but are now used only if tricyclic antidepressants and SSRIs have failed. This is due to potentially lethal dietary and drug interactions (Pataki & Carlson, 1995). Tricyclic antidepressants are theorised to work by blocking the absorption or reuptake of serotonin and noradrenaline, which increases the synaptic availability within the brain. Tricyclics are an older choice of antidepressant treatment and have been largely replaced by newer antidepressants such as selective reuptake inhibitors, which are more specific in the neurotransmitters they target and have fewer side effects. SSRIs are similar to tricyclics in that they block the reuptake mechanism (called a reuptake transporter) that allows the neurotransmitter to be reabsorbed by the presynaptic neuron but specifically target serotonin neurons. Tricyclic antidepressants are not so selective and target cholinergic and histaminergic neurons, which primarily cause the unwanted side effects.

The monoamine hypothesis is a much-debated topic in the study of pharmacological intervention of depression and faces many criticisms that highlight its limitations. Firstly, there are certain antidepressant medications that do not target the monoamine neurotransmitters. Tianeptine and opipramol are effective antidepressants that target glutamate and sigma receptors, respectively (Fishback, Robson, Xu, & Matsumoto, 2010). Secondly, experiments have shown that when monoamine levels are pharmacologically decreased it does not cause depression in healthy people nor does it worsen symptoms in depressed people (Delgado, 2000; Delgado & Moreno, 1999). Thirdly, serotonin levels increase very quickly with monoaminergic antidepressants, yet symptoms of depression are not usually alleviated for approximately two to four weeks. This delayed onset of action suggests neurogenesis (neuron growth) might play a role in this type of pharmacological intervention (Mitchell, 2006).

The goal however for the acute treatment of depression with antidepressant medication is generally to provide symptom relief (DeRubeis, Siegle, & Hollon, 2008). Remission, in this context, is defined as the near absence of symptoms (Frank et al., 1991). Systematic reviews and meta-analyses show that the success rate for antidepressants is higher in cases of severe depression but lower in cases of mild and moderate depression (Bauer et al., 2007; Cameron, Reid, & MacGillivray, 2014). Treatment of depression with medication alone can yield a significant chance of relapse. Although there is much debate over the figures, generally speaking, antidepressants are shown to be effective in controlling depression in around one third of cases with partial success in another third but are ineffective in the remaining third (Nemeroff et al., 2003; Tyrrell & Elliot, 2015). The monoamine hypothesis has amassed an enormous following in the popular psychological explanation of depression (Hirschfeld, 2000). Attributing depression to being due simply to a chemical imbalance in the brain is however misleading in the sense that depression cannot be treated solely on the basis of neurotransmitters (Marano, 1999). Meta-analyses of treatment outcomes for depression show a clear improvement when antidepressants are used in combination with a psychotherapeutic intervention such as cognitive behavioural therapy or interpersonal therapy (Cuijpers, 2014; Cuijpers et al., 2014; Frank, Novick, & Kupfer, 2005). The relative inadequacy of pharmacological interventions when used alone compared to when used in conjunction with psychotherapy highlight the importance for effective psychotherapeutic intervention. The psychological perspectives of depression are now discussed.

2.3 Social perspectives on depression

The biopsychosocial model of health and illness also highlights the social factors affecting general health to be a major contributing influence on mental health. The sociological aspects of depression interact with the biological and psychological aspects of people's lives. The social perspective of depression examines the cultural context in which people live, as well as the social stressors that people encounter as a part of life. Decades of research has identified various social conditions that have been found to predispose certain population subgroups to various mental health problems including depression. The social perspective emphasises the need for a shift toward the prevention of mental health problems by addressing the social causes and triggers that lie in social, economic, and political spheres (World Health Organisation, 2014).

2.3.1 World Health Organisation and the social determinants of mental health

A conceptual framework that summarises the major social determinants of mental disorders has been developed by Patel et al (2010) through a review of global evidence for the World Health Organisation and the Calouste Gulbenkian Foundation's Global Mental Health Platform (2014). The theoretical foundation of framework is rooted in the considerable and growing evidence showing that mental health and many common mental disorders are shaped to a great extent by social, economic and environmental factors. The categories of social determinants that comprise this multi-level framework were chosen by Patel and colleagues on the basis of their conceptual coherence and distinctness. These categories are deemed important for two reasons: they reflect areas that influence the risk of mental disorders; and they present potential opportunities for intervening to reduce risk. The categories are: Life-course, Parents, families, and households, Community, Local services, and Country-level factors. A summary of these categories as described by the Calouste Gulbenkian Foundation's Global Mental Health Platform (2014). is presented in the table below.

Table 2.1: Table of important areas that comprise the multilevel framework of the social determinants of mental disorders, World Health Organization and Calouste Gulbenkian Foundation. Social determinants of mental health. Geneva, World Health Organization, 2014.

Category	
Life-course	Refers to the various stages of life, from prenatal to old age, that can impact and influence an individual's mental health. Also includes gender.
Parents, families, and households	Includes factors such as parenting behaviours and attitudes, material conditions (income, access to resources, food/nutrition, water, sanitation, housing, employment), employment conditions and unemployment, parental and physical and mental health, pregnancy and maternal care, and social support.
Community	Neighbourhood trust and safety, community-based participation, violence/crime, attributes of the natural and built environment, and neighbourhood deprivation.
Local services	Early years care and education provision, schools, youth/adolescent services, health care, social services, clean water and sanitation.
Country-level factors	Poverty, inequality, discrimination, governance, human rights, armed conflict, national policies to promote access to education, employment, healthcare, housing and services proportionate to need, social protection that are universal and proportional to need.

2.3.2 The social stigma of mental illness

It is appropriate here to include the human element regarding the social stigma of mental illness. The social stigma of mental illness such as depression represents an added stress to the sufferer. Michel Foucault offers an insight into how the social stigma of mental illness is, in historical sense, a relatively new phenomenon.

Michel Foucault (1926-1984) is a philosopher that explored, among other subjects, how mental illness is viewed by European society. In his dissertation 'Civilisation and Madness' (1965) Foucault examines how attitudes toward mental illness in the eighteenth century have influenced how mental illness is conceptualised by society in the modern age. Foucault believes that the incarceration of individuals with mental illness and labelling them as mad has had a detrimental effect on society's relationship with mental illness.

Foucault's argument centres around what he refers to as a ruptured dialogue between the mentally ill and society as a whole. In his own words, "Modern man no longer communicates

with the Madman" (Foucault, 2003 p IX). The eighteenth century saw those with mental illness placed in the same category as vagrants and prostitutes. Foucault contrasts this with how mental illness was perceived in the Renaissance period (14th to 17th Century), saying that the "Mad man" was viewed as having wisdom; being creative and fearsome. Foucault argues that a period of transitional thinking occurred between these two periods where "madness" went from being viewed as an individual difference worthy of study, to being viewed as an illness and something needing to be cured (Khalfa, 2009).

2.4 Psychological perspectives on depression

Typically, psychological perspectives of depression have been developed as part of efforts to reduce depression with the use of some form of talk therapy or psychotherapy. The term 'psychotherapy' was first used in 1853 by the English Psychiatrist Walter Cooper Dendy based on the principle that talking may help with emotional problems by providing support and encouragement (Jackson, 1999). Different forms of psychotherapy have been based on a variety of perspectives on mental health and distress, including depression. Several perspectives and the role of inner conflict or imbalance in the approaches are addressed in this section.

The early twentieth century saw attempts by Sigmund Freud to apply scientific reasoning to the developing field of psychotherapy. More than simply providing support, this approach was attempted through scrutinising and analysing the content of thoughts and subconscious information processing (McDowell, 2015). Although crude by today's standards, Freud's formulations were consistent with the science of medicine in his era. By the middle of the century however, the field of medicine in general was making dramatic advances due to the synergy of applied science and emerging technologies. Psychotherapy remained largely stagnant due to the avoidance of more rigorous scientific enquiry. The prevailing perspective of depression as perceived in the psychoanalytical (or psychodynamic) perspective is multifaceted. It is based largely on an inner conflict that manifests as self-directed anger stemming from an overly restrictive Superego (Freud, 1930).

2.4.1 Rogers' (in)congruence model of the self and the implication for depression

As Freudian psychoanalysis waned in popularity, from the 1960's the humanist movement rose to prominence as both a psychological theory and a method of psychotherapy. Humanistic psychology is a perspective that emphasises the study of the person as a whole (also known as Holism). The humanistic perspective proposes that an individual's behaviour is connected to their feelings and their self-image (McLeod, 2014). The key contrast here is that unlike psychoanalysis, humanistic psychotherapy helps clients address thoughts that are consciously attainable to them and does not focus on the unconscious mind. Humanistic therapy deals with thoughts and feelings, rather than childhood experiences and repressed tendencies that supposedly stem from the unconscious mind. The most well-known form of psychotherapy in the humanistic tradition is client-centred therapy, originally introduced by Carl Rogers in 1959. Client-centred therapy describes the source of mental health problems including depression as resulting from internal conflict due to 'incongruence' between an individual's self-concept and their experience (Rogers, 1959).

Central to Rogers' theory is the notion of self-concept. Rogers describes self-concept as the organised and consistent pattern of perceptions and beliefs that one has about oneself (Rogers, 1959). A person's self-concept is comprised of a combination of their experiences and their interpretations of those experiences. Rogers also makes the distinction between the 'ideal-self' and the 'real-self'. The ideal-self is essentially the person that one would like to be, as opposed to the person that one actually is (the real-self). Rogers suggests that the ideal-self is indeed just that, an ideal, something that is unattainable and not real. It is something for which we all strive. A standard that we cannot realistically meet. The discrepancy between the real-self and the ideal self is what Rogers calls 'incongruence'. Rogers proposed that a certain amount of incongruence is a natural part of the human condition and manifests itself as dissatisfaction and psychological distress. In the extreme however, acute incongruence, (i.e., great inconsistency between the ideal self and the real self) may lead to significant negative affect which may precipitate maladaptive coping mechanisms such as denial and distortion. These defence mechanisms act as techniques to protect one's self-esteem. An individual may distort or deny reality in order to protect their feelings about themselves. Studies have shown that high levels of incongruence contribute to the formation and maintenance of psychopathological symptoms, including depression (Berking et al., 2003; Grosse Holtforth & Grawe, 2003). In line with this, one of the core aims of client-centred therapy is identified as the reduction of incongruence.

Self-concept also plays a key role in cognitive dissonance theory. Section 2.5.1 below describes some of the major revisions that dissonance theory has undergone since its inception. Elliot Aronson's revision of the theory so that it focuses on self-related inner conflict is one of the most influential (Cooper, 2007). Roger's incongruity theory and Aronson's revision of dissonance both focus on conflict that is rooted in inconsistency and self-concept.

2.4.2 Cognitive perspectives on depression

Cognitive theories of depression have always attempted to explain its development by identifying the underlying thought processes. Among the most currently influential psychological theories are those that relate to cognition. Cognition is the umbrella term to describe the mental processes involved in acquiring knowledge and covers just about all of our mental activity or information processing. Cognitive theories of depression began to emerge throughout psychological literature from the 1950's onwards in response to behavioural psychologists' failure to address the significance of thoughts and feelings in human experience (Nemade, Reiss, & Dombeck, 2007). Cognitive psychologists are motivated to integrate internal experiences with behavioural experiences for a more complete description of the human psychological experience. Some of the more widely cited cognitive theories of depression include: Ellis (1962), Beck (1967), Seligman (1975), and Bandura's social cognitive model (1977). More specifically, these could be described as models of cognitive vulnerability to depression. Cognitive vulnerability models claim that depressive symptoms result from the interaction between negative emotions and cognitive reactions. This interaction may take the form of dysfunctional attitudes and negative inferential style (Mehu & Scherer, 2015).

Aaron Beck's (1967) cognitive model of depression is widely used in the current understanding and treatment of depression. Beck's model (figure 2.2) explains the cognitive processes that are implicated in depression and forms much of the basis for cognitive therapeutic intervention. Beck identified three cognitive mechanisms that he believed to be at the heart of depression: (a) negative automatic thinking, (b) a negative internal representation of the self, and (c) errors in information processing (McLeod, 2015).

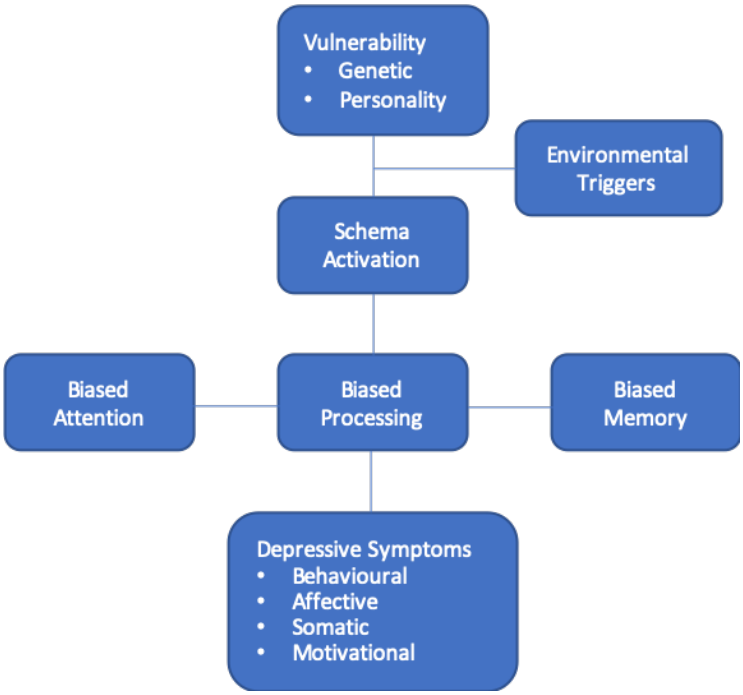

Figure 2.2: Beck's cognitive model of depression.

The first mechanism, negative automatic thinking, describes three types of negative thinking that individuals with depression are prone to. They are thoughts regarding the individual's sense of self, the way they see the world, and how they see their future. For instance, negative thoughts about the self, such as "I am a failure", or "I am worthless". Negative thoughts about the world such as "nobody likes me", or "everyone is horrible". And negative thoughts about the future, "nothing will ever go right for me". Together, they form what Beck called the negative cognitive triad (figure 2.3).

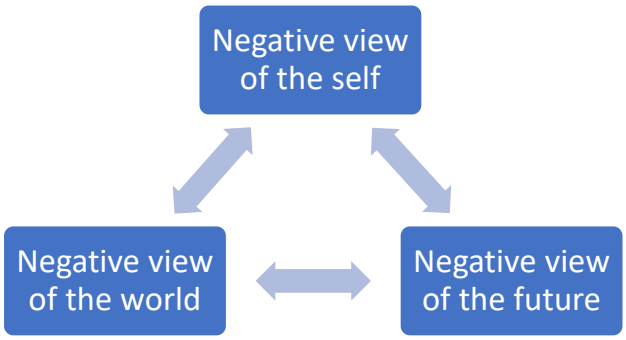

Figure 2.3: The negative cognitive triad (Beck, 1967).

The second mechanism describes how the individual can develop a negative internal representation about themselves. This negative mental representation consists of a set of beliefs and expectations about themselves that is essentially pessimistic in nature. Beck calls this a 'negative self-schema' and suggests that it can be caused by negative experiences in childhood (e.g. death of family member, bullying, etc.). Beck suggests that a person is particularly vulnerable to depression if they develop a negative self-schema early in life because it may become activated later in life due to stressful experiences (Davis, Green, Burnette, Reid, & Moloney, 2013). Similarities can be seen here to Carl Rogers' theory of incongruity. Beck's negative self-schema is comparable to Rogers' negative self-concept that lies at the heart of incongruity.

The third mechanism describes how depressed individuals are prone to logical errors or 'cognitive distortions' in their thinking because they are biased toward negative interpretations. The theory suggests that depression creates negative biases in an individual's attention, memory, and interpretation. A cognitive distortion is an exaggerated or irrational thought pattern that may cause an individual to perceive reality inaccurately (Helmond, Overbeek, Brugman, & Gibbs, 2015). An example of a cognitive distortion that is common in depression is 'catastrophising', where a person gives greater weight to the likelihood of the worst possible outcome happening in a given situation.

Studies suggest that the cognitive impairments implicated by Beck's theory are related to a deficit in inhibitory processing (Campbell-Sills & Barlow, 2007; Hertel, 1997; Joormann, 2005). Inhibitory processing refers to the mind's ability to disengage from negative or irrelevant stimuli. Researchers such as Joormann, Yoon, and Zetsche (2007) suggest that deficits in cognitive inhibition lie at the heart of biases in memory and attention which in turn allows for ruminative responses to negative events and negative mood states (Gotlib & Joormann, 2010). Beck emphasised the automaticity of this process and how negative cognitive biases reciprocally influence the negative triad. Depression ensues when this negative cognitive cycle remains unbroken. It is the goal of effective psychotherapy to break this cycle. This can be achieved partly through helping clients develop insight in this process and subsequently assisting them in adopting rational and positive alternative cognitions for the negative and self-defeating perspectives at the basis of their problems. The emphasis is on developing these thought processes. The fact that this may reduce inner conflict is mostly left implicit in the approach but is nonetheless important.

2.4.3 The Stress perspective on depression

The stress perspective on mental Illness has its roots in an understanding of biological processes that lead to over-activation of the nervous system in the short term, which is a core element of the manic state in bi-polar depression, and exhaustion due to prolonged stress, which is viewed a key feature of long term depressed states. Research has focussed on how depression may be linked to nervous system dysregulation by identifying the effects of the stress response, particularly in the context of chronic stress. At the core of this approach, in a biological sense, is the examination of hypothalamic pituitary-axis dysregulation. The sympathetic branch of the body's autonomic nervous system is activated in what Walter Cannon (1932) famously described as the body's 'fight or flight' reaction to any perceived threat. It is believed that this reaction, which involved activation of the sympathetic nervous system, is necessary to provide an organism the best chance to defend itself or escape a dangerous attack. Whenever a dangerous threat is perceived, there begins a sequence of physiological events that is precipitated by a cascade of stress hormones controlled by a complex set of neural and endocrine feed-forward and feed-back interactions This system is also known as the hypothalamic-pituitary-adrenal axis (HPA-axis). The stress response sequence begins with the brain's emotional centre, the amygdala, which signals a neural response in the hypothalamus (part of the brain's limbic system). The hypothalamus then stimulates the pituitary gland, which in turn secretes adrenocorticotropic hormone (ACTH). ACTH stimulates the adrenal gland to produce the hormone corticosteroid cortisol. Cortisol enables the body to maintain steady supplies of blood sugar necessary to fuel the body's energy needs that are required for the increased strength and speed needed in anticipation of fighting or running when faced with a threat to survival or homeostasis. Specifically, the physiological changes facilitated by the stress response include: increased blood flow to muscles, increased blood pressure and heart rate, blood clotting function increase, and increased muscle tension (Aguilera, 2011).

The HPA-axis is responsible for the adaptation component of the stress response. When a stressor is encountered, the blood concentration of cortisol exerts a positive feed forward signal for the hypothalamic release of corticotropin-releasing factor (CRF) and the pituitary release of ACTH, at which point homeostasis returns. Cortisol is however intended to shunt cellular processes away from long-term metabolic processes and toward those that specifically facilitate survival and homeostasis. There is also a negative feedback loop of cortisol on its own secretion and is intended to limit the long-term exposure of tissues to the

immunosuppressive effects associated with the stress response. Habitual and sustained HPA-axis activation (or indeed over-activation) will effectively desensitise the hypothalamus and pituitary glands to the appropriate level of cortisol, which disrupts the overall effectiveness of the stress response.

Hans Selye (1956) described the 'General Adaptation Syndrome' (GAS), which is a three-stage model outlining the changing phases of the effect of long-term stress on the body. The distinction between the alarm, resistance, and exhaustion phases helps describe the deleterious effect of unrelenting stress that becomes chronic and persists over time. The alarm phase is similar to Cannon's 'fight or flight' stage where a threat has been detected and the stress response is initiated. The resistance stage describes the body's attempt to resist or adapt to the stressor. The body adapts to stress and the release of stress hormones by 'allostasis', which is the body's attempt to maintain homeostasis. Although the release of cortisol will initially help provide the body with the necessary energy needed to effectively deal with the stress, prolonged exposure will prove detrimental. In small quantities, the anti-inflammatory function of cortisol speeds up tissue repair, but large quantities can accelerate pathophysiology of cardiovascular and immune systems. The wear and tear caused by prolonged stress to the body is called allostatic load and is measured through a composite index of indicators of cumulative strain on several organs and tissues, especially the cardiovascular system (Edes & Crews, 2017). When high stress levels continue, the deleterious effects on the body cause a reduction in the immune system's ability to respond and the person enters in the third stage, exhaustion .

An excess of cortisol can lead to a syndrome known as hypercortisolism (Holsboer, 2001). Hypercortisolism suppresses cellular immunity which increases susceptibility to infection and neoplasm (abnormal tissue growth) (Delaney, 2010). It has long been observed that hyperactivity of the HPA-axis function (as measured by higher daytime cortisol levels, ACTH, and CRH) is commonly found among persons with depression. Although hypercortisolism has been strongly associated with depressive symptoms, the mechanisms mediating hyper-hypocortisolism in depression remain controversial. It is also believed that HPA-axis dysregulation could explain some of the negative somatic conditions associated with depression (such as cardiovascular disease and diabetes) (Mello, Mello, Carpenter, & Price, 2003).

Hypocortisolism, on the other hand, describes any condition that can be attributed to chronically low levels of cortisol that occur as a result of the inhibition of its release, paradoxically due to the nature of the negative feedback loop of its initial secretion. In the long-term, prolonged release of cortisol has an inhibitory effect the release of cortisol. This acts as a protective mechanism to avoid the problems associated with the short-term immunosuppressing effect of the stress response. Hypocortisolism results in the amplification of inflammatory pathways and increases the susceptibility to inflammatory diseases, including autoimmune diseases, chronic fatigue syndrome, fibromyalgia, and mood disorders including depression (Silverman, Heim, Nater, Marques, & Sternberg, 2010).

Selye's GAS model describes the effects of chronic stress terms of its damaging physical effects on the body. The psychological equivalent of the exhaustion stage is known as Burnout (Maslach et al., 1986; Maslach & Leiter, 2016). Burnout is a psychological syndrome that is a consequence of unresolved chronic stress. It is a concept that has traditionally been explored in terms of job occupation stress. It is measured in three dimensions: emotional exhaustion (feelings of being emotionally drained), depersonalisation (dehumanising perception of others), and a decreased sense of accomplishment. Burnout is a concept that has been associated with depression since its first inception and publication in the 1970's by Freudenberger. He noted that, when a person is suffering from burnout, "the person looks, acts, and seems depressed" (Freudenberger, 1974, p. 161). In fact there has been much disagreement on whether burnout and depression are the same or different constructs, as they appear to share some key features (e.g., loss of interest and impaired concentration) (Koutsimani, Montgomery, & Georganta, 2019). There have been many studies that demonstrate the positive correlation between burnout and depression: (Bianchi, Schonfeld, Mayor, & Laurent, 2016; Glass & McKnight, 1996; Schaufeli & Enzmann, 1998). (Bianchi, Schonfeld, & Laurent, 2015) in their system review of inventories that assess burnout found that the subscale of emotional exhaustion in particular was positively correlated with depressive symptoms (Koutsimani et al., 2019). The emotional exhaustion component considered to be the core component of burnout (Cox, Tisserand, & Taris, 2005).

As shall be discussed in detail below there are both physiological and psychological processes at work in cognitive dissonance. Section 2.5.3 describes that there is an observable physiological reaction involved in the onset of dissonance conflict. In light of the link between both the physical exhaustion of chronic stress and also to the emotional exhaustion of burnout

to depression, it would certainly appear that an exploration of relationship between depression and cognitive dissonance is justified.

2.4.4 Summary of the psychological perspectives of depression

In this section the theoretical background of three main psychological theories of depression have been discussed. The role of the self has been discussed in terms of Carl Rogers' theory of incongruity. This is significant in terms of dissonance theory as they both share the concept of self-related inner conflict. Beck's cognitive model of depression describes the mental processes that occur in depression. In particular, it describes the negative and irrational nature of these processes. Dissonance theory shares the potential irrationality of certain thought processes in the reduction of dissonance conflict (discussed in section 2.5.4). And finally, depression was discussed in terms of its link to physical and psychological exhaustion. This relates to dissonance theory in terms of the physical and psychological aspects of dissonance processes. As dissonance theory is described in later sections, it will be related to each of these three elements. Each of these perspectives include elements of depression that a model based on dissonance could potentially unify. A potential dissonance model of depression is discussed in section 2.6.

2.5 Consistency theories

As we've seen, progress in depression theories rooted in psychotherapy perspectives has either implicitly or explicitly included the role of inner conflict, its aversive quality, and its threat to the self. Independent from this development, a wealth of empirical research on cognitive consistency and inconsistency has taken place, the fruits of which may have important implications for our understanding of depression. If we make the assumption that inner conflict is worth examining on the basis of the psychotherapeutic evidence, than the next step should be to invoke the more general knowledge acquired about cognitive consistency and inconsistency.

The desire to maintain consistency between thoughts or 'cognitive consistency' has long been recognised as a fundamental drive by social and cognitive psychologists. Research in this area has given rise to several theories of cognitive consistency that have their beginnings in a number of seemingly unrelated research areas (Eagly & Chaiken, 1993). Research into topics such as attitudes, person perception, prejudice and self-evaluation have all produced similar

versions of cognitive consistency theory (e.g. Heider, 1968; Piaget, 1951; Newcomb, 1953; Miller 1944; Osgood and Tannembaum, 1955; Rosenberg, 1956; Festinger, 1957). A summary table of the most influential of these consistency theories is presented below (Table 2.2). For comparison the models rooted in psychotherapy theory are also included.

Table 2.2: The main consistency theories.

Author and Year	**Theory**	**Premise**	**Consequence of unresolved conflict**
Freud (1923)	Psychodynamic Theory	Conflict (between the Id, the Ego, and the Superego) could give rise to problematic psychological states.	Repression, neurosis.
Newcomb (1953)	Strain Theory	There are three, rather than two types of balance relationships in a triad	
Piaget (1951)	Consistency Equilibration Theory (from Cognitive Development Theory)	A new schema is created due to the inconsistency between the existing schema and the new information. (Process that drives cognitive development)	Ineffective cognitive accommodation
Osgood and Tannenbaum (1955)	Congruency Theory	This theory holds that incongruity (like imbalance) is unpleasant and motivates audiences to change their attitudes.	Incongruence
Heider (1958)	Balance Theory	we are driven to achieve a balanced state between people or objects.	Imbalance
Rosenberg (1956)	Affective-cognitive consistency model	People seek consistency in order to satisfy a general motivation toward simplicity in cognition, and/or to adhere to norms, traditions, customs, or values that reinforce consistency in one's cognitions and behaviour.	
Festinger (1957)	Dissonance Theory	Two cognitions in a dissonant state are create a tension that the individual is driven to avoid.	Dissonance discomfort
Rogers (1961)	Congruence Theory	Incongruence between the Real and Ideal Self is said to lead to distress and anxiety.	Incongruence

What each of these theories have in common is that they posit that all individuals have a drive towards consistency in their thinking. Consistency theories have had made a major impact on social and cognitive psychology in terms of their explanation of the motivation behind thoughts and behaviour. The key insight provided by consistency theories is that individuals are sensitive to inconsistencies and motivated to strive towards consistency. Individual like their values, attitudes and beliefs to be consistent with one another and with their behaviours. Individuals will even behave in seemingly irrational ways to preserve this consistency. Humans work hard to maintain this consistency because when contradictions arise, it creates a sort of psychological tension that makes them feel uneasy and uncomfortable. The strength of the discomfort will depend on the extent and importance of the inconsistency and will motivate cognitive or behavioural adjustments to reduce the inconsistency, but there are also other possible responses. Each of these theories articulate cognitive consistency in different ways. Festinger (1957) refers to consistency in terms of 'cognitive dissonance', whereas Heider (1958), for example, refers to consistency in terms of 'balance'. Both theories are referring to cognitive consistency but refer to it using differing terminology. Balance theory (Heider) will be addressed briefly, before cognitive dissonance theory (Festinger) is addressed.

2.5.1 Balance theory

In Balance Theory, Heider (1958) describes people's tendency towards consistency in terms of the relationships between how a person thinks and feels about people and objects. For example, if a person P likes another person O and O likes object X, then P will tend to like X also. When patterns of liking and disliking are consistent with one another there is said to be psychological balance. According to balance theory, we are all driven to achieve this this balanced state. When the patterns are inconsistent, it creates a dilemma, which motivates people in general to correct the imbalance somehow by changing how they feel about either the person or object. Altering one's attitude about the person or object allows the individual to return to a state of psychological balance. Balance theory is regularly used (to great effect) in marketing and explains how celebrity endorsement affects consumer preference of certain products. If a consumer has a favourable attitude towards a certain celebrity, and that celebrity appears to favour a certain product (perhaps through an endorsement deal), then that consumer will also favour the product in order to achieve psychological balance (Mowen & Brown, 1981). Conversely, balance theory can also explain why a product distributor might

distance themselves from a controversial celebrity after a public scandal causes them to be looked upon less favourably in general. In this case, the fear is that the consumer might achieve psychological balance by also viewing the associated product less favourably. Balance theory has been criticised for being relatively crude and lacking precision and nuance (Monroe, 2007). It does not take into account the varying degrees of liking and importance that can be attached to somebody or to something. According to balance theory, there is either balance or there is not.

2.6 Cognitive Dissonance Theory

By far the most influential of the consistency theories is Leon Festinger's Cognitive Dissonance theory (1957). Like other consistency theories, Festinger's theory states that people are generally motivated to maintain a cohesion or stability in their beliefs, values, and behaviours in order to avoid a psychologically unpleasant 'tension state'. This tension state typically manifests itself as a negative emotional reaction (guilt, regret, shame, etc.). According to the theory, dissonance is said to occur when a person has two related thoughts that contradict each other. Specifically, a person will experience cognitive dissonance when one of the thoughts implies a contradiction of the other. Cognitive dissonance can be illustrated by any number of simple examples. Imagine a person (any person) receiving the wrong change after a transaction in a shop. Imagine that they receive change of fifty Euro, when they only paid with twenty Euro, and they fail to correct the shopkeepers error. In this case there is an inconsistency between the person's actions/behaviour and their beliefs about honesty and decency. The two contradicting thoughts would be 'I am an honest person', and 'I did a dishonest thing'. In this example, the dissonance is created by the contradiction between the two thoughts. The resulting psychological uneasiness would be experienced as a negative emotional reaction such as guilt, regret, or shame over not doing the right thing and returning the extra money.

2.6.1 Revisions of the theory

Cognitive dissonance theory has undergone a number of revisions since its original inception in 1957. Three of the most prevalent revisions are Aronson's (1969) revision which links dissonance to self-concept, Cooper and Fazio's (1984) aversive consequences revision, and Harmon-Jones' (1999) action-based model.

Aronson's (1969) revision focuses on the importance self-related conflict in dissonance theory. In Festinger's original theory, any two inconsistent cognitions were enough to generate dissonance. For Aronson, there was a need for a person's self-concept to be affected by the inconsistency for dissonance to be generated. This contrast is illustrated by Joel Cooper (2007) with the following two examples:

1. You are standing in the rain and you are not getting wet.
2. You read information that smoking is bad for you but you continue to smoke

In the first example, based on your past experience of being in the rain, you expect to get wet. If you were to remain dry, according to Festinger's original theory, you would experience dissonance. In the second example, the person's behaviour (smoking) after reading the health warnings about the dangers of smoking creates an inconsistency with the person's positive self-concept (that they are a competent and rational person) (Cooper, 2007). Aronson argues that for dissonance to take place, a person's self-concept must be contradicted.

Cooper and Fazio's (1984) revision states that not only is it necessary for an inconsistency between cognitions to be present, but there must also aversive consequences to the inconsistency as well. According to Cooper and Fazio, an individual experiences dissonance particularly when they feel personally responsible for bringing about an aversive or unwarranted event. The authors examined the original dissonance experiments (Festinger & Carlsmith, 1959) and found that there were always aversive consequences associated with the inconsistency (the participants were asked to lie). According to this revision, an individual is more likely to be motivated to reduce the dissonance if their actions result in aversive consequences.

The action-based model (Harmon-Jones, 1999; Harmon-Jones, Amodio, & Harmon-Jones, 2009) addresses the motivational nature of dissonance. The model suggests that cognitions serve as action tendencies. An action tendency is an urge to carry out a certain behaviour that is connected to a particular feeling. An example of an action tendency is the fight or flight reaction to the body's stress response (Pam, 2013). The model suggests that dissonance is created an individual's action tendencies are conflicted. The individual is motivated to reduce the dissonance not just because of an unpleasant emotional reaction, but more specifically in order to act effectively (Hinojosa, Gardner, Walker, Cogliser, & Gullifor, 2017). These refinements to the theory have helped to guide more specific research clarifying different stages of the dissonance process.

2.6.2 This study's stance on dissonance

Festinger's original conception of dissonance focussed on the uneasy tension that arises from inconsistency between cognitions. In terms of the magnitude of dissonance (i.e., how intensely felt), Festinger focussed on degrees of discrepancy between the inconsistent. According to Festinger, the greater the discrepancy between the consistent cognitions, the greater the dissonance and, in turn, the greater the motivation to reduce it (Cooper, 2007). Aronson's revision of dissonance theory in 1969 however places more emphasis on self-concept (Aronson, 1969). This revision suggests that individuals are more likely to experience dissonance when the inconsistency affects one's self-image. Discrepancies between one's attitude and one's behaviour pose a threat to the self, which triggers attempts at resolution (Gawronski & Brannon, 2016). These attempts to resolve dissonance occur in order to restore a positive self-view. It is the concept of the self that links dissonance and depression. At the core of both of these experiences is how one feels about oneself. Although there have been further revisions of the dissonance theory, it is Aronson's revision that is most closely relatable to depression research. It is for this reason that Aronson's revision of dissonance theory which places the focus of the theory on self-related inner conflict has been chosen as the version of dissonance theory that is central to this study.

2.6.3 Dissonance induction

Dissonance arousal occurs when there a discrepancy between self-related cognitions. Cognitive dissonance may be created or induced in a person for research and observation purposes in several different ways. This is usually achieved by creating a discrepancy between a person's beliefs and their behaviour. The different ways that this can be achieved are known as the experimental paradigms. Here the word paradigm is being used in the experimental sense rather than the philosophical sense. Thomas Kuhn used the word paradigm in the philosophical sense to describe a shared set of assumptions and values for viewing reality, especially in an intellectual discipline (Göktürk, 2005; Kuhn, 1970). The word paradigm also means example (or model). In dissonance research, the dissonance paradigms are standards of experimental methodology that are used to arouse cognitive dissonance and assess the results (Vaidis, 2014).

There are five main dissonance paradigms found in dissonance research. Freijy and Kothe (2013) describe the five main dissonance paradigms: belief disconfirmation, free choice, effort justification, induced compliance, and hypocrisy paradigm.

- Belief disconfirmation paradigm: participants are presented with information that is inconsistent with their existing beliefs. If the participant is unable to adapt their beliefs, they may reduce the dissonance by rejecting or denying the conflicting information. They may also seek others sharing the same beliefs to restore consonance (L. Festinger, Riecken, & Schachter, 1956).
- Free choice paradigm: a participant is asked to choose between two or more alternatives. The dissonance occurs when the individual thinks about the positive aspects of the rejected alternative or the negative aspects of the chosen alternative. This dissonance may be reduced by viewing their chosen alternative more positively or the rejected alternative more negatively than they did before the decision (Brehm, 1956).
- Effort justification paradigm: participants freely engage in an effortful task for seemingly little purpose. The dissonance caused by the wasted effort can be reduced if participants justify their actions to be worthwhile (Aronson and Mills, 1959).
- Induced compliance paradigm: participants act contrary to an existing attitude. If they are not provided with sufficient reasoning or justification for it they will experience dissonance. An example of this is counter-attitudinal advocacy where participants voluntarily argue a position contrary to his or her existing beliefs (Festinger and Carlsmith, 1957). This is usually done via exercises such as role-play (e.g. Stice and Rohde, 2011).
- Hypocrisy paradigm: participants make a pro-social statement about the value of a particular behaviour. They are then reminded of their own past failures regarding that behaviour. The dissonance is created between the participant's present attitudes and past transgressions (Aronson, Fried, & Stone, 1991).

These dissonance paradigms are summarised below in table 2.3. The dissonance paradigm that was utilised in the quantitative phase of the present study is the hypocrisy paradigm. A full description of how this paradigm was utilised provided in Chapter Four: Methodology.

Table 2.3: Summary of dissonance experimental paradigms.

Dissonance Paradigm	Description
Belief disconfirmation	Participants are presented with information that is inconsistent with their existing beliefs.
Free choice	Participants are asked to choose between two or more alternatives.
Effort justification	Participants freely engage in an effortful task for seemingly little purpose.
Induced compliance	Participants act contrary to an existing attitude.
Hypocrisy paradigm	Dissonance is created between the participant's present attitudes and past transgressions

2.6.4 Dissonance discomfort and sympathetic activation

There is much evidence to show that there is an increase in physiological arousal that occurs concomitantly with cognitive dissonance (Croyle & Cooper, 1983; Elkin & Leippe, 1986; Gerard, 1967). This sympathetic nervous system activity is typically demonstrated in terms of non-specific galvanic skin response. Galvanic skin response (GSR) is a measure of a change in skin conductance due to an increase of sweat gland activity. These sweat glands are driven by the sympathetic branch of the autonomic nervous system. This is the branch of the nervous system that controls the body's rapid response to danger known as the 'fight or flight' response. It is activated in a process that allows the body to meet behavioural demands (such as engaging in energetic movement). Certain emotional experiences (especially negative ones) also trigger autonomic arousal, such as exposure to fear inducing stimuli. What studies on the physiological aspects of cognitive dissonance shown is that the negative affective response brings with it a physiological reaction as well as a psychological one.

The physiological arousal element of dissonance could be a necessary aspect of dissonance reduction, i.e., creating the physiological drive or motivation to address the dissonance conflict. Dissonance arousal has been found to facilitate performance in simple tasks (Martinie, Olive, & Milland, 2010). Martinie et al. (2010) collected the reaction times of participants who were writing counter-attitudinal essays in dissonance and no-dissonance conditions. The participants in the dissonance condition were found to have shorter reaction times than those in the no-dissonance condition. Martinie et al. (2010) interpreted this finding

within the framework of the energetic models of cognitive resources (Sanders, 1998), which postulate that the level of arousal affects the total amount of available cognitive resources. For instance, the shorter reaction times observed in dissonance condition indicated more available cognitive resources, which resulted from an increase in participants' level of arousal. Interestingly, participants' reaction times returned to baseline once they had completed the counter-attitudinal behaviour (Martinie, Milland, & Olive, 2013).

2.6.5 Dissonance resolution

Dissonance theory describes not only that people in general are motivated to avoid this uncomfortable feeling but it also describes how people in general typically achieve the resolution. According to dissonance theory a person will attempt to avoid the resulting negative experience and restore harmony between their beliefs and their behaviour by one of four basic ways. These are also called modes of dissonance reduction and are listed here and then illustrated by using the example above of a person experiencing dissonance from being given the wrong change in a shop:

1. Changing the dissonant behaviour or the cognition
2. Add new elements to reduce the inconsistency
3. Reduce the importance of the dissonant elements
4. Ignore or deny the information that conflicts with existing beliefs

Dissonance reduction mode 1: Changing the dissonant behaviour or the cognition

Using the example above about the person experiencing cognitive dissonance from receiving the wrong change, the first mode of dissonance reduction occurs when a person changes either the dissonant behaviour or the dissonant cognition. When one of the dissonant elements is a behaviour, that behaviour can be changed or eliminated to reduce the dissonance. In the example, the person could return the money that does not belong to them. Though this may seem the most straightforward, this mode of dissonance reduction can be unappealing for several reasons. It can be unpleasant to effect a behaviour change when it means we must apologise or own up to our mistakes. Furthermore, behaviour change can be difficult or even impossible in certain situations. When the dissonance is caused by a well-learned behaviour (example: a smoker who continues to smoke even though they are aware of the risk), changing the behaviour can be notoriously difficult. Furthermore, the opportunity to make amends can sometimes be beyond reach (example: apologising to someone that is no longer contactable).

When one of the dissonant elements is a cognition (such as a conflicting belief, attitude, or opinion), a person might adapt that opinion to fit their behaviour. In the example, the person would tell themselves that keeping the extra money is not really a bad thing to do. However, if the opinion or belief in question is particularly deep-rooted or fundamental to the person, this mode of dissonance reduction is unlikely. People's basic beliefs and attitudes tend to be stable. People generally maintain a fairly consistent view of the world and themselves in order to make predictions and therefore values that people hold to be important tend to be enduring rather than ephemeral.

Dissonance reduction mode 2: Add new elements to reduce the inconsistency

Dissonance may also be reduced through adding new cognitions. This occurs when a person justifies his/her belief or behaviour by seeking out information that supports his/her beliefs. In other words, a person will rationalise their behaviour by adopting a new opinion to fit the behaviour. It is, in effect, how people in general make excuses. In the example above, a person might tell themselves that "shops probably allow for a certain amount of money to go missing", or perhaps "I deserve this money because I've been short-changed in the past". A person using this mode of dissonance reduction could also tell themselves that they will make amends by effecting a behaviour change at some time in the future. For example, they may tell themselves that they will return the extra money the next time that they are in the shop, or that they will give the money to charity. This would restore consonance yet actually require no actual effortful behaviour change. This mode of dissonance reduction does not require any behaviour change and does not require changing long-held or fundamental beliefs, therefore this mode is a more desirable option.

Crucially, this mode of dissonance reduction is largely dependent on the dissonant person's perceptions and interpretations of both the situation and themselves. It stands to reason this process might be affected in a person who is predisposed to certain negative biases, such as those biases that are found in someone with depression.

Dissonance reduction mode 3: Reduce the importance of the dissonant elements

The magnitude of the dissonance that is experienced by an individual depends on how important or strong the cognitions are that have been contradicted by that individual's behaviour. Also, the more intense the dissonance, the greater the motivation is to reduce it. Dissonance can be reduced by reducing the importance of the dissonant cognition. In the example, the person could reduce the dissonance of keeping the wrong change by telling

themselves that “it’s not a big deal”, or “it’s hardly a serious crime”. In this way, the person’s behaviour does not contradict a strongly held belief. In such as example, the belief has been somewhat diluted as has the resulting dissonance.

Dissonance reduction mode 4: Ignore or deny the information that conflicts with existing beliefs

Dissonance can also be reduced by ignoring or denying the information that conflicts with pre-existing beliefs. With this mode of dissonance reduction, a person will purposefully not think about either the action or the behaviour (or both). They will purposely distract themselves or occupy their mind with something else instead. In the example of the incorrect change, the person could ignore the fact that they have received the incorrect change by not thinking about it. This would be achieved by shifting one’s attention or allowing oneself to become distracted. Alternatively, they could deny (to themselves) the existence of either the cognition or the behaviour. If the person in the example were to engage in this form of dissonance reduction they would deny the dissonant-causing information and tell themselves that they did indeed receive the correct change. They would tell themselves that there had been no mistake. This may seem far-fetched when illustrated in this hypothetical example but this mode of dissonance reduction is actually quite common. Many people, when faced with information that challenges their deeply held beliefs (such as religious or political ideology), will intensely repudiate any new and conflicting information, even when that information is logically sound. The refusal to accept an empirically verifiable reality can be seen from scientific and historical perspectives. Examples of scientific denialism include denial of climate change and evolution. An example of a historical denialism is the denial of the occurrence of the holocaust. In both of these examples, many people are remain sceptical in the face of overwhelming evidence to the contrary.

2.6.6 Neuroscience research on cognitive dissonance

Neuroscience research of cognitive dissonance attempts to further understand the theory by identifying the underlying brain activity that corresponds with dissonance processes. This has been achieved using neuroimaging techniques such as functional magnetic resonance imaging (fMRI) which detects changes associated with blood flow in the brain. This technique relies on the premise that neural activity is coupled with cerebral blood flow. When an area of the brain is engaged in activity, blood flow to that area increases (Huttle, Song, McCarthy, 2009). Although the neuroscience evidence of dissonance processes is relatively scarce when

compared to the amount of available behavioural data, there is a convergence of results that implicates certain areas in the brain which appear to be involved in dissonance experiences.

De Vries et al., (2015) reviewed the existing neuroimaging data which revealed five fMRI studies that explore the neural correlate of dissonance induction using various experimental paradigms. Four studies used versions of the free-choice paradigm in which participants are asked to choose between two alternatives (Izuma, Matsumoto, Murayama, Samejima, Sadato, & Matsumoto, et al., 2010; Izuma, Akula, Murayama, Wu, Iacoboni, & Adolphs, 2015; Jarcho, Berkman, & Lieberman, 2011; Qin, Kimel, Kitayama, Wang, Yang, & Han, 2011; Kitayama, Chua, Thompson, &Han, 2013). Van Veen, Schooler, &Carter (2009) used a version of the induced compliance paradigm reminiscent of the classic Festinger and Carlsmith experiments (1959). De Vries et al (2015) employed a hypocrisy paradigm in which an extended version of the DIEL questionnaire that is used in the present study was utilised.

There are three brain regions that have been consistently implicated in dissonance processes. The neuroimaging studies mentioned above converge to suggest that just like other complex social cognitive processes such as theory of mind and empathy, cognitive dissonance involves different interacting networks of neural structures (Izuma, 2015), which consists of the posterior medial frontal cortex (pMFC), anterior insula, and dorsolateral prefrontal cortex (DLPFC). The pMFC is a region that is made up of the three main areas: The dorsal anterior cingulate (dACC), the dorsomedial prefrontal cortex (dmPFC), and the supplementary motor area. Although other brain regions have been also implicated, the involvement of these three brain regions seems to be the most consistently observed in past research (Izuma and Murayama, 2019). Although the individual areas of activation can be identified, how exactly these areas of neural activation work in concert still remains unknown.

In terms of the neuroscience of depression, Disner et al., in their 2011 study outline the neural basis of Beck's cognitive model of depression. According to Beck's model, activation of negative self-referential schemas distorts information processing in the brain by negatively biasing attention, interpretation, and memory. Research suggests that these impairments are related to inhibitory deficits, or in other words, an inability to disengage from negative stimuli (Gotlib & Joormann, 2010; Joormann, 2006). It is thought that these inhibitory deficits lead to sustained negative emotional processing. According to Disner and colleagues, normal inhibitory processing is associated with a combination of activity in the anterior cingulate

cortex (ACC) and the dorsolateral prefrontal cortex (dlPFC); but the pattern of activity is substantially different in individuals with depression. In other words, altered ACC and dlPFC function probably contributes to biased attention for negative information in depression by disrupting efficient inhibition of negative stimuli and is clinically manifested as depressive rumination.

The ACC and slPFC are areas that have been implicated in dissonance arousal and dissonance resolution (outlined in the studies above). The ability to disengage from negative cognitive stimuli (or negative thoughts) is by definition the goal or purpose of the different modes of dissonance reduction. Given that similar areas of neural activity are implicated in the processes of both dissonance and depression it would appear that dissonance and depression are not only conceptually linked but also potentially related at a neurophysiological level also. The neuroscience of the relationship between dissonance and depression could be a fruitful avenue for future research.

2.7 Dissonance theory as an explanatory mechanism for psychotherapy

Tryon and Misurell (2008) conducted a review of the existing principles or mechanisms responsible for the psychotherapeutic treatments for depression. The review explored what the authors call a lack of understanding of the principles and mechanisms at work in these treatments of depression. The authors make the case for cognitive dissonance theory as an explanatory mechanism that might help understand how psychotherapeutic interventions work and how they may be improved.

The authors conducted a comprehensive keyword search of academic databases (PsycINFO and PubMed). The results of their search led the authors to conclude that any proposed mechanisms of change found in the available literature are lacking in any compelling explanatory power. The authors offer an example of an often-cited mechanism, 'cognitive mediation'. Cognitive mediation is an umbrella term for many cognitive changes that occur during psychotherapy, but it does not explain how these changes can and do take place. Cognitive mediation strategies are often presented as "box and arrow" models. They may describe the flow of functionality, but they do not provide mechanism information for how this functionality occurs.

Tryon and Misurell (2008) propose that cognitive dissonance processes are actually at work in several types of psychotherapy (cognitive therapy, behavioural therapy, and interpersonal therapy) in the treatment of depression. The authors specifically cite dissonance induction

and reduction processes. To use a simplified example, a therapist might help create dissonance in the client by manufacturing an inconsistency between a client's dysfunctional attitudes and a prescribed healthy behaviour. This is dissonance induction. The client's natural motivation to resolve the dissonance (created with the help of the therapist) can then be harnessed to help reduce the inconsistency and help align healthy thoughts with healthy behaviour. This is dissonance reduction. Tryon and Misurell (2008) call this the dissonance induction/reduction principle. The authors believe that this principle is already utilised by many therapists (regardless of theoretical orientation) but perhaps not explicitly so. The authors suggest that further research on how cognitive dissonance can be applied in the treatment of depression might help understand how psychotherapeutic interventions work and how they may be improved.

2.8 Failed dissonance resolution: the case for dissonance and depression

Exploring the cognitive processes that result in depressive symptoms is crucial if we are to further our understanding of the disorder and its treatments. By analysing the cognitive processes relating to inner conflict resolution (or lack thereof) in terms of dissonance theory, it opens the possibility for a dissonance model of depression. With this model it may be possible to refine and personalise therapeutic interventions for those who may not resolve cognitive dissonance with the automatic ability that is characteristic of the process. A Dissonance Depression Cycle Model would outline how unsuccessful dissonance resolution perpetuates a physical and mental exertion that may continue until a state of ruminative exhaustion potentially manifests clinically as depressive episode. A proposed model is presented in figure 2.4.

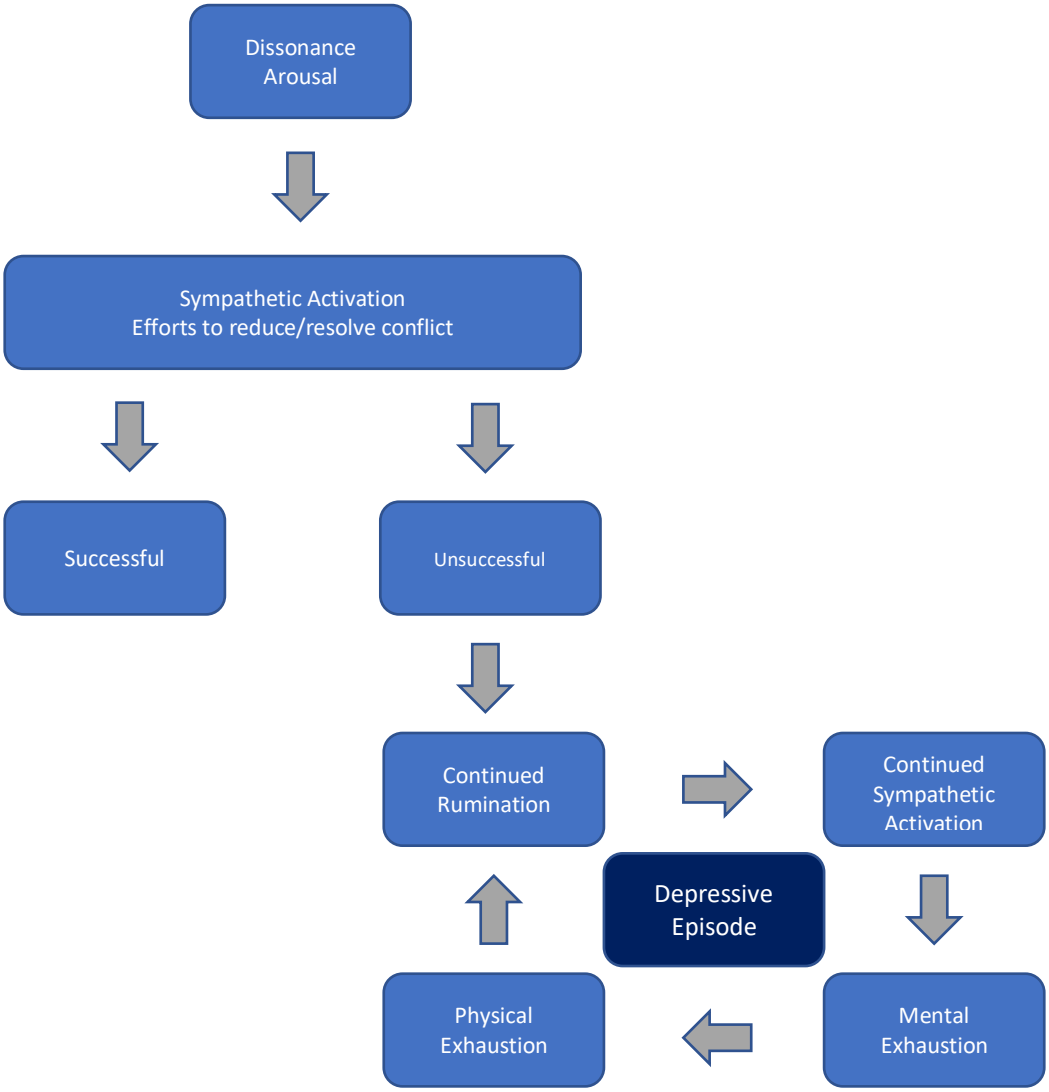

Figure 2.4: Dissonance model of depression showing the possible connection between unresolved dissonance and continued rumination. .

The model describes the onset of a depressive episode as being precipitated by ongoing and unresolved dissonance. It begins with dissonance arousal which is an experience of two inconsistent thoughts that creates a self-related conflict. This is accompanied by an activation or arousal of the sympathetic nervous system. The presence of dissonance brings with it a motivation to resolve the conflict either by changing one's attitude or behaviour. If the reduction attempt is successful, the dissonance is resolved or at least sufficiently reduced to the point where the individual is not bothered by the discomfort. If the reduction attempt is unsuccessful, the individual is forced to dwell upon the conflict and the negative emotional experience that it generates, in a process similar (by definition) to rumination. If this negative

experience continues it would be presumably quite draining on the individual, at least in terms of ongoing sympathetic activation.

The proposed dissonance model of a depressive episode lends itself to the cyclical nature of the process of rumination. Dissonance reduction requires an effortful attempt. A decrease in energy would diminish an individual's ability to respond to the conflict and reduce it effectively. Exhaustion and burnout would hamper the individual's ability to break the negative cycle. The strength of the proposed model is that it incorporates multiple features from other theories of depression, namely the aspects of the self (from congruity theory), cognition (Beck's cognitive model), and stress theory and burnout.

This chapter described the theoretical background of the depression and cognitive dissonance theory. It has described the conceptual basis for a potential theoretical relationship between the two topics. The next will present a comprehensive review of the available literature on the relationship between depression and dissonance theory.

2.9 Dissonance and low self-esteem in individuals with depression.

One potentially confounding point that is pertinent to the study is the relationship between dissonance, the self, and low self-esteem that is common in depression. Cognitive dissonance is said to occur when an individual betrays the fundamental positive sense of self. Self-esteem is a concept widely explored within the humanist branch of psychology and considered a near universal trait. However, a common symptom of depression is low self-esteem where the depressed individual experiences a sense of worthlessness and essentially low self-esteem. It would seem reasonable to pose the question whether depressed individuals by virtue of low self-esteem are perhaps less likely to experience dissonance.

Gloria Rothenburg (1984) set out to answer this very question in her doctoral dissertation titled 'The depressive paradox and cognitive dissonance'. The study explored whether cognitive dissonance arousal would be hindered by the low levels of self-esteem that are a characteristic feature of depression. The study's hypothesis that depressed individuals would be less sensitive to dissonance arousal than non-depressed individuals received weak support. A small difference was found between groups in terms dissonance arousal with less arousal found in the depressed group. The difference was however not statistically significant. The authors suggest that this may have been due to small sample sizes (n= 69) and a large

variability in scores on the dissonance task. Another explanation proffered by the author was that the particular task used to induce dissonance in this study did not effectively provide a measure of the particular types of dissonance reduction processes engaged in by depressed individuals.

The Rothenburg study is not the only one of its kind that is currently available to examine the question of whether or not depressed individuals are as as sensitive to dissonance arousal. Indeed, Stalder et al (2014) reason that individuals with depression may be more sensitive to dissonance induction than non-depressed individuals. In their study, the authors reason that depressed individuals tend to show more guilt, more indecisiveness, and less ability to trivialize negative events, each of which is predictive of elevated feelings of dissonance. Thus, depressed individuals are likely to show a stronger emotional reaction to a dissonance manipulation. It would appear that whether or not depressed individuals are more or less likely to experience dissonance is a complex question. This is currently an unresolved issue in the field of dissonance theory.

3: A Review of the Current Literature

This chapter presents a review of the literature on the relationship between depression and cognitive dissonance theory. For the purpose of this study, a systematised narrative review was used. The review is systematised in the sense that a it utilises certain elements of a systematic review in order to increase the rigour of the literature search process. The review is presented using the IMRaD format (Introduction, Method, Results, and Discussion) and is a format most commonly used in the reporting of narrative reviews (Ferrari, 2015). The aim of this narrative review is to provide a description and critical analysis of the published literature that makes a connection between the topics of depression and cognitive dissonance theory.

3.1 Limits and scope

The present study is exploratory in nature and as such it was important to be as inclusive as possible when it came to the type of studies to be reviewed. There were no limits applied in terms of time range of publications, types of study, or age of participants. As this is a relatively novel study, it was important to find as many relevant studies as possible. Articles were included for the current analysis if they met the following criteria:

- Relevant articles that generated empirical data.
- Relevant articles that collected quantitative, qualitative, or studies that employed a mixed-methods approach.
- Relevant articles where the main focus was on the connection between depression and cognitive dissonance theory.

3.2 Methodology

A formal search of five electronic databases was conducted (Academic Search Complete, CINAHL, MEDLINE, PsycARTICLES, and PsycINFO) to search for the key search terms listed in Table 3.1, covering all years. Only studies that focussed on the relationship between depression and cognitive dissonance were eligible to be included in the review. Both quantitative and qualitative studies were eligible for inclusion. Grey literature has been included by including dissertations and conference proceedings. Grey literature was accessed via Google Scholar utilising the same keyword search, along with online searches of a broad range of websites including government, non-government, community, and voluntary organisations.

Table 3.1: Keyword Search.

Database	Keywords
Academic Search Complete (29)	(SU "Depression" OR TI (Depressive OR Depression) OR AB (Depressive OR Depression)) AND (SU “Cognitive Dissonance” OR (“Cognitive dissonance”) OR AB (“Cognitive Dissonance”)
CINAHL (9)	(MH "Depression" OR TI (Depressive OR Depression) OR AB (Depressive OR Depression)) AND (MH “Cognitive Dissonance” OR (“Cognitive dissonance”) OR AB (“Cognitive Dissonance”)
MEDLINE (19)	(MH "Depression" OR TI (Depressive OR Depression) OR AB (Depressive OR Depression)) AND (MH “Cognitive Dissonance” OR (“Cognitive dissonance”) OR AB (“Cognitive Dissonance”)
PsycARTICLES (3)	(DE "Major Depression" OR TI (Depressive OR Depression) OR AB (Depressive OR Depression)) AND (DE “Cognitive Dissonance”) OR TI (“Cognitive Dissonance”) OR AB (“Cognitive Dissonance”)
PsycINFO (54)	(DE "Major Depression" OR TI (Depressive OR Depression) OR AB (Depressive OR Depression)) AND (DE “Cognitive Dissonance”) OR TI (“Cognitive Dissonance”9 OR AB (“Cognitive Dissonance”)

Note: SU: Subject terms; TI: Title; AB: Abstract or Author-Supplied Abstract; MH: Exact Subject Headings; DE: Subjects [exact].

3.3 Results

The keyword search yielded a total of 158 articles. A PRISMA flow diagram (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was used to add structure and rigour to the search (Moher et al., 2015). After the removal of forty four duplicates, the exclusion process began with the remaining 114 studies. These studies were assessed according to title, abstract, and article content. Of the one hundred and fourteen studies, 93 studies did not meet the eligibility criteria. The reasons for their exclusion are outlined here. Thirty articles were found to be irrelevant to the present study and were therefore excluded from the review. These articles were deemed irrelevant due to either: ambiguity in the keyword terminology (such as depression in the economic sense, as opposed to the psychological sense, (e.g. Brown & Fee, 2015), or featuring the search terms in the keywords but not anywhere in the actual article, (e.g. Disner, Beevers, Haigh, & Beck, 2011) or mentioning the search terms at least once in the article but not in connection to each other (e.g. Mujika et al., 2014). Of the remaining eighty five articles, 73 were found to be somewhat relevant but to not meet the inclusion criteria (in that the relationship between depression and cognitive dissonance was not the primary focus of the study). The reasons for their exclusions are as follows. Nineteen studies made reference to a connection between depression and cognitive dissonance. Any connection made in these articles between

depression and dissonance was considered to be insufficient and lacking in any substantial relevance to the research question from the present study. There were eighteen studies where dissonance theory has been used to form the basis of an intervention of a mental health issue other than depression but where depression is considered a contributing or co-morbid factor, such as with eating disorders (e.g. Stice et al., 2008). There were thirty six articles where dissonance and depression are mentioned briefly in connection with one another without any further focus or explanation of the possible relationship between the two. Of the 114 articles, 11 met the inclusion criteria, as indicated in the (PRISMA) statement figure 3.1 below. These are articles where the relationship between dissonance and depression was found to be the main focus. These are the core articles of this literature review which are summarised in Table 3.3 (below) and will now be discussed.

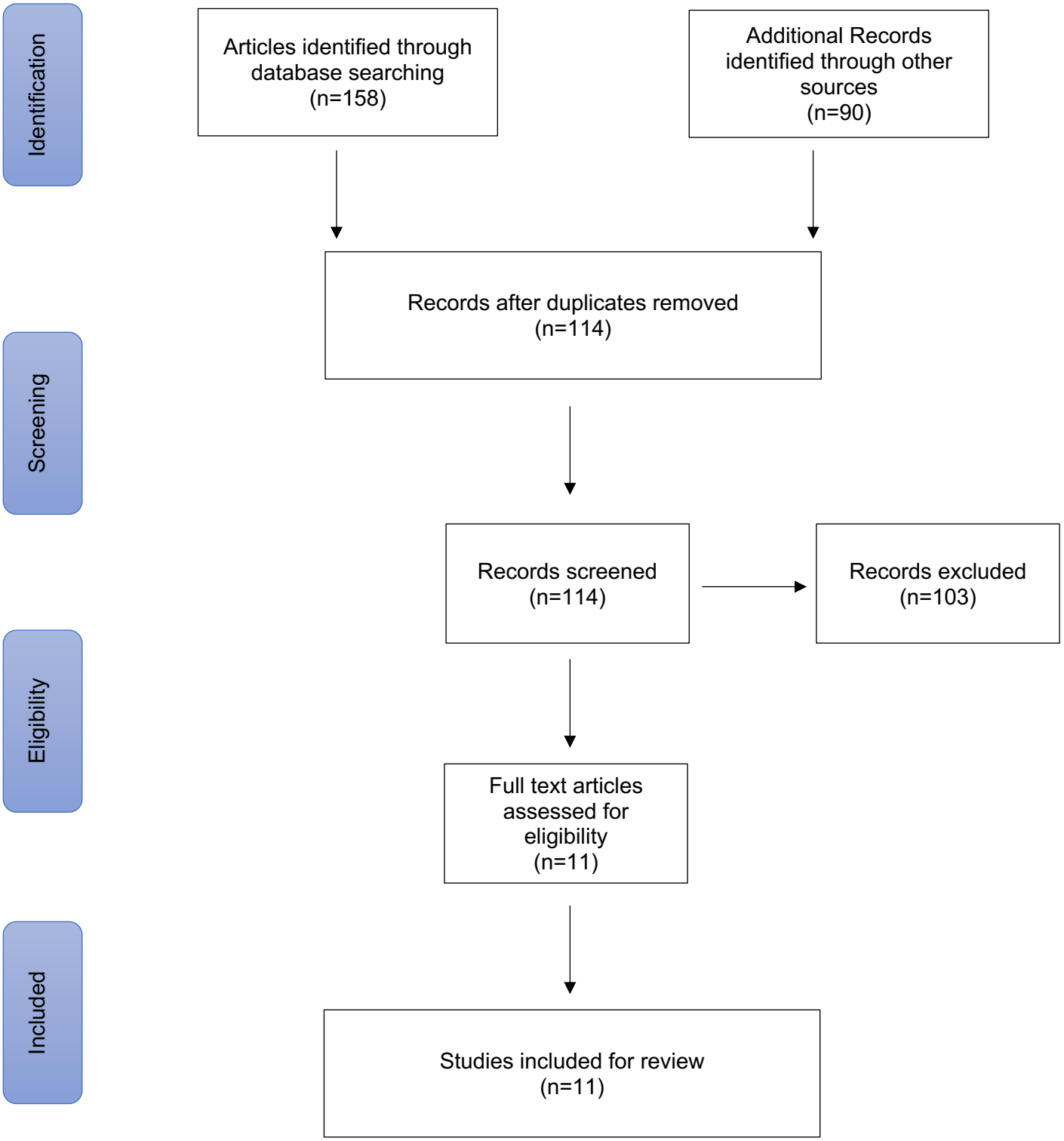

Figure 3.1: Study selection process using PRISMA.

3.3.1 Critical analysis of eligible studies

This section provides a critical analysis of studies eligible for this literature review. The studies are reported based on design, dissonance paradigm, methods, key findings in terms of the relationship between depression and dissonance, and limitations. A summary table is also presented (Table 3.3) As previously stipulated in section 3.1.1, studies are eligible that mainly focus on the relationship between depression and cognitive dissonance. Various measures have been used for depression and cognitive dissonance, which will be discussed below. For those studies that make reference to specific dissonance experimental paradigm, a brief summary of the various dissonance experimental paradigms is also presented (Table 3.2).

Table 3.2: Summary of dissonance experimental paradigms.

Dissonance Paradigm	**Description**
Belief disconfirmation	Participants are presented with information that is inconsistent with their existing beliefs.
Free choice	Participants are asked to choose between two or more alternatives.
Effort justification	Participants freely engage in an effortful task for seemingly little purpose.
Induced compliance	Participants act contrary to an existing attitude.
Hypocrisy paradigm	Dissonance is created between the participant's present attitudes and past transgressions

Table 3.3: Summary of eligible studies.

Author (Year), Country	***Conflict Paradigm***	***Design***	***Methods***	***Key significant findings on depression and cognitive dissonance***
1. Rothenberg (1983), USA	Induced compliance	Experimental design, groups comparison	Comparison of two sample groups: depressed (n=31) versus non-depressed (n=39) Quantitative data: Beck Depression Inventory, Self-Esteem Scale (Laxer, 1964)	The study's hypothesis, that depressed individuals would be less sensitive to dissonance arousal than non-depressed individuals, received only weak support.
2. Rhodewalt et al (1986), USA	Modified Hypocrisy paradigm – 'Strategic Self-Presentation)	Experimental design, Groups comparison	Two groups, depressed Vs non-depressed. Quantitative study, questionnaire-based data: Depression Scale (BDI, MMPI), Self-Esteem (SVT). Interview data: Role-playing exercise,	Results showed that the non-depressed participants that were exposed to a self-deprecating condition experienced a decrease in self-esteem. Depressed participants that were exposed to a self-enhancing condition experienced an increase in self-esteem.
3. Zhan et al (1994), USA	Self-consistency	Cross-Sectional survey design	Population sample of hearing impaired elderly individuals (n=130) Quantitative data: The visual Analogue Scale – A Sense of Self, The Geriatric Depression Scale	The authors successfully developed a new psychometric scale measuring 'self-consistency'.
4. Stangier et al (2007), Germany	Intrapersonal Conflict	Experimental design, groups comparison	Unipolar patient group (n=53) compared to non-depressed control group (n=24) Quantitative study, Questionnaire-based data: Beck Depression Inventory, Dysfunctional Attitude Scale, Inventory of Interpersonal Problems, Problem Solving Inventory Main objective was to investigate cognitive inconsistencies in depression.	There was significantly higher levels of intrapersonal conflict in depressed patients than in controls.

5.	Van Steenbergen et al (2010), Netherlands	Cognitive control – Response Task (Flanker Task)	Experimental design, Groups comparison	Four mood induction groups. Quantitative study. Mood induction procedure (Eich et al 2007), Mood rating grid (Russel et al 1989), Flanker task (Eriksen et al 1974)	Authors predicted that affective states would adaptively regulate goal-directed behaviour that is driven by conflict
6.	Bauman et al (2014), Germany	Post – Decisional Dissonance	Experimental Design, (Groups Comparison)	Three groups: 2 experimental (patients with depression, patients with OCD Quantitative study, Questionnaire-based data collection Means, SDs, Pearson's r Correlations, Chi-squares, ANOVA, Wilcoxon Mann Whitney U test, Exploratory factor analysis The main objective was to identify cognitive dissonance as an influencing factor in mental disorders	Patients with depression did not differ in post-decisional dissonance compared to a healthy control group.
7.	Stalder et al (2014), USA	Induced compliance Dissonance	Experimental Design, (Between Groups Comparison)	Two groups dichotomised based on depression scores – high depression Vs low depression Quantitative study, Questionnaire-based data collection, CES-D, BMI, Story compositions (Stalder, 2010), Discomfort measure (Stalder et al, 2014), Trivialisation measure (Stalder et al, 2014) Three-way Analysis of variance (3-way ANOVA – Story X Inconsistency X Depression)	High-depressed and not low-depressed participants showed a dissonance effect. High-depressed participants were also less able to trivialise.
8.	Montesano et al (2014), Spain	Cognitive Conflict - Implicative Dilemma	Survey design, Groups comparison	Two Groups, Depressed (n=46) Vs non-depressed (n=496)	Self-related conflicts (implicative dilemmas) were in twice as many depressed patients than controls.

			Quantitative study, Questionnaire-based data: SCL-90-R (Symptom Checklist – 90-Revised), GSI(Global Severity Index) DS (Depression Subscale), CSPC (Classification System for Personal constructs)	Amount and severity of depression symptoms were correlated with larger amounts of conflicts.
9. Basha (2015), Egypt	Cognitive distortion	Correlative descriptive design	Quantitative study (n=117) Measures: Ruminative Response Scale (RRS), Self Automatic Judgment Questionnaire (SAJQ, Beck Depression Inventory (BDI), Trait Anxiety Scale) Main aim: to investigate the relationship between depressive symptoms and cognitive distortions.	Results showed that there was a positive correlation between rumination and cognitive distortion. Rumination and cognitive distortion predicted levels of depression.
10. Rohde et al (2016), USA	Induced compliance Dissonance	Experimental Design, (Between Groups Comparison)	Two groups Pre-test/Post-test Quantitative study, Questionnaire-based data collection, Structured interviews Percentages, Means, SDs, Confidence intervals, t- test, Logistic regression, Chi-Square, Comparison of a dissonance-based intervention (n=28) Vs Educational brochure intervention (n=31)	Two interventions designed to decrease depression symptoms were compared. The intervention based on dissonance theory showed medium-large reductions in depressive symptoms at post-test
11. Montesano et al (2017), Spain	Cognitive Conflict - Implicative Dilemma	Survey design, Groups Comparison	Two Groups, Good outcome cases (n=5) Vs Poor outcome cases (n=5) Mixed methods study, Questionnaire based data: BDI (Beck Depression Inventory), RGT (Repertory Grid Technique), Interview based data: SCID-I (Structured Clinical Interview for DSM-IV Axis 1), 'Client Change Interview', Innovative Moments Coding System'.	Patients with the best therapeutic outcome showed a significant reduction in self-identity related conflicts (implicative dilemmas)

1. ***Rothenberg (1983), USA***

This study used an experimental design (group's comparison) to explore whether dissonance induction would be less likely in a depressed sample. The study explored whether cognitive dissonance arousal could be hindered by the low levels of self-esteem that are a characteristic feature of depression. The author reasoned that if dissonance is aroused by an individual contravening their positive self-image, then those individuals without a positive self-image do not experience dissonance. A participant sample was divided into depressed and non-depressed groups based on a depression inventory assessment (BDI – Beck, 1978). Dissonance was induced using a procedure based on the 'induced compliance' paradigm (adapted from Brehm and Leventhal, 1962). Dissonance was measured on a comfort/discomfort scale ranging from one to seven).

The study's hypothesis that depressed individuals would be less sensitive to dissonance arousal than non-depressed individuals received weak support. A small difference was found between groups in terms dissonance arousal with less arousal found in the depressed group. The difference was however not statistically significant. The authors suggest that this may have been due to small sample sizes (n= 69) and a large variability in scores on the dissonance task. Another explanation proffered by the author was that the particular task used to induce dissonance in this study did not effectively provide a measure of the particular types of dissonance reduction processes engaged in by depressed individuals.

2. Rhodewalt et al (1986), USA

This study used an experimental design, group's comparison comprised of mildly depressed and non-depressed participants (n=128). The authors used an induced-compliance paradigm called 'strategic self-presentation'. The authors' aim was to examine the effects self-enhancement and self-deprecation on private self-appraisal.

Participants were asked to engage in a role-playing exercise in which they played either enhanced or diminished versions of themselves in a mock job interview. Participants also completed a depression scale (Beck Depression Inventory, BDI) and a personality inventory (Minnesota Multiphasic Personality Inventory, MMPI), and a measure of self-esteem (Self-Valuation Triads Test, SVT).

The results showed that the non-depressed participants that were exposed to a self-deprecating condition experienced a decrease in self-esteem. Depressed participants that were exposed to a

self-enhancing condition experienced an increase in self-esteem. The authors propose that cognitive dissonance processes (induction and reduction) mediated the shifts in self-esteem of both groups.

The study is couched in social judgment theory and deals with the 'phenomenal self' (Jones & Gerard, 1967). The phenomenal self in this sense refers to "a person's awareness about oneself arising out of his/her own beliefs, values, attitudes, the links between them, and their implications for his/her behaviour" (Jones & Gerrard, 1967, p.716). At the centre of the phenomenal self are the concepts of 'latitudes of acceptance' and 'latitudes of rejection'. In this sense, latitudes are conceptual ranges of ideas that a person either sees as reasonable or worthy of consideration (latitude of acceptance), or unreasonable or objectionable (latitude of rejection) (Griffin, 2006). It is perhaps unnecessary to consider the relationship between dissonance and depression in these arduous terms. For example, the concept of latitudes of rejection serves to explain why unfavourable or contradictory information about oneself might be denied or ignored (as in the case of self-deprecation). But this can surely be more simply understood as a rejection of information on the basis that such information potentially threatens one's ego or self-image. The dissonance that is generated by ego-damaging information can be resolved by denying or ignoring the contradicting information, as per the fourth mode of dissonance reduction described in the previous chapter (Chapter Two: Theoretical Overview).

3. Zhan et al 1994, USA

Zhan and Shen (1994) conducted a cross-sectional study that examined dissonance and depression in an aging population for the purpose of creating a new psychometric scale measuring 'self-consistency'. The concept of self-consistency is a concept closely related to cognitive dissonance. The premise of self-consistency, originally proposed by Lecky (1961), is that people form an understanding of who they are, consisting of an organised set of congruent self-perceptions that are integrated into a coherent whole. This sense of self-consistency solidifies as the person engages in social interactions. The study cites dissonance theory as the basis for the drive for self-consistency and the endeavour to minimise perceived discrepancies. Zhan and Shen cite many studies that highlight the importance of self-consistency to mental well-being, especially in older people. Continuity of self-consistency (the sense of conviction that 'I am who I have always been') is said to help older people cope with age-related physical and psychological changes (Kaufman, 2000). The authors also cite Beck (1979), Rosenberg (1979), and Rogers (1961) in their understanding that a lack of self-consistency can lead to certain affective disorders

such as depression. Zhan and Shen successfully developed a scale to measure levels of self-consistency in an aging population (with chronic health conditions). The self-consistency scale created shows promising psychometric properties. The authors report high alpha coefficients for the factors measured, which indicates a strong internal consistency reliability. The psychometric measures of Cronbach's alpha, range, means and standard deviation for the Self Consistency Scale (SCS) indicated that the internal consistency reliability of the SCS was supported by alpha coefficients of 0.89 for the total scale, and 0.88 and 0.84 for Factor I and Factor II, respectively. Convergent validity was established by a positive correlation between the SCS and the VAS, r=60. Divergent validity was supported by a negative correlation between SCS and GDS, r = - 0.57. Construct validity of the SCS was evaluated by using factor analysis. Based on inspection of the rotated factor matrix, a two-factor solution was selected that explained 44% of the variance. These findings show promising psychometric properties of the SCS (Zhan and Shen, 1994, p. 515).

4. Stangier et al (2007), Germany

Stangier, Ukrow, Schermelleh-Engel, Grabe, and Lauterbach (2007) investigated the relationship between internal conflict and depression using a paradigm based on intrapersonal conflict. Intrapersonal conflicts are, broadly speaking, any conflicts that an individual faces within his/herself. Intrapersonal conflicts can be more specifically defined as cognitive inconsistencies between a person's goals and attitudes. It is based on incongruence theory (Grawe, 2004; Rogers, 1961) which states that inconsistencies between a person's goals or values and the reality of their situation may contribute to the development and maintenance of psychological problems such as depression.

Stangier et al measured intrapersonal conflicts of depressed (n=53) and non-depressed (n=24) participants using the Intrapersonal Conflict Test (Lauterbach and Newman, 1999). Participants also completed the Beck Depression Inventory, the Dysfunctional Attitude Scale, the Inventory of Interpersonal Problems, and the Problem Solving Inventory.

The authors found that patients diagnosed with depressive disorders scored significantly higher in in conflict between goals and values and the perceived realisation of these goals when compared to a non-depressed control group. The authors are cautious in drawing conclusions regarding the role of intrapersonal conflict in the aetiology of depression, due to the cross-sectional nature of the study. The authors admit that a longitudinal study would probably be necessary to deduce whether intrapersonal conflicts represent a more or less stable vulnerability factor for the onset

or recurrence of depression. However, they did confirm that depression is associated with significantly higher levels of intrapersonal conflict in depressed patients compared with a healthy control group.

5. Van Steenbergen et al (2010), Netherlands

Van Steenbergen, Band, and Hommel (2010) conducted a study to investigate the effect of emotions on cognitive processing. The authors predicted that affective states may adaptively regulate goal-directed behaviour that is driven by conflict. To test this hypothesis, the authors measured cognitive performance using the Flanker task. This is a response-inhibition task that requires a subject to respond to a visual task awhile being simultaneously distracted. Participants must adapt to signal interference or 'resolve' the cognitive conflict. The distraction in this case creates the cognitive conflict. A subject's performance generally adapts to the task in subsequent trials which means they learn to filter out the distraction and not allow it to interfere with their performance. This ability to adapt or repress interfering stimuli is a key feature of cognitive control (Verguts & Notebaert, 2009). The authors hypothesised that conflict driven cognitive control could potentially be influenced by an individual's emotional state. The authors specifically predicted that people in a low-pleasure mood would adapt more strongly to the task than those in a high-pleasure mood. Each participant group was assigned to one of four mood conditions (anxious sad, calm, and happy). Mood was induced using a standard mood induction procedure that combines music with imagination and has been shown to reliably induce mood changes (Eich, Ng, Macaulay, Percy, & Grebneva, 2007). To verify that mood had indeed been successfully manipulated, subjects rated their mood on a 9x9 Pleasure x Arousal grid (Russell, Weiss, & Mendelsohn, 1989). The results of the study show that participants in the low-pleasure mood conditions (anxious and sad) showed a stronger adaptation following conflict trials than the happy and calm mood conditions. These findings support the author's proposition that affect helps to regulate goal-directed behaviour in response to cognitive control.

Van Steenbergen et al highlight an interesting parallel between their findings and cognitive dissonance theory. The authors propose that dissonance reduction and conflict adaptation may both reflect adaptive avoidance responses to situations of incompatibility. Interestingly, dissonance detection and cognitive conflict (in the cognitive control sense) both share the same area of brain activation; the anterior cingulate cortex (De Vries et al., 2015; Van Veen, Krug, Schooler, & Carter, 2009). It is certainly worth considering whether these two seemingly disparate forms of conflict in fact share a similar neural processing mechanism. It could, for

example, open an exciting new avenue of empirical data collection if a high-level cognitive phenomenon (such as dissonance) could be observed more accurately using lower-level research paradigms (such as with inhibition tasks, such as the flanker task).

6. Bauman et al (2014), Germany

The study conducted by Baumann, Piesbergen, Vant, and Tominschek (2014) was an experimental design, group comparison. The aim of the study was to empirically investigate the presumed connections between cognitive dissonance and depression and obsessive compulsive disorder (OCD). The authors used a post-decisional dissonance paradigm. Post-decisional dissonance typically occurs when a person experiences regret (when making a choice) at the possibility of having made the wrong choice (Brehm, 1956).

Questionnaire data were compared from three participant groups. Two experimental groups (depressed patients and OCD patients) and a healthy control group were used. Control group participants completed a mental health symptom inventory (BMI, the Brief Symptom Inventory). The depressed group participants completed questionnaires to measure Depression (BDI, Beck's Depression Inventory). The OCD group participants completed (Y-BOCS, Yale-Brown Obsessive Compulsive Rating Scale). All participants completed a dissonance questionnaire designed to quantify cognitive dissonance generated by a purchasing decision (Sweeney, Hausknecht, & Soutar, 2000). This questionnaire, originally developed for a study on consumer behaviour, was modified by Baumann and colleagues for this study.

It was the authors' intention to examine the theory of cognitive dissonance as an influencing factor in "mental disorders". The main findings showed that there was significantly higher post-decisional dissonance for the OCD group when compared to controls. There was however no significant difference in dissonance scores between the depressed group and controls. Although there was no significant difference the dissonance scores (as measured by the post-purchase dissonance questionnaire, Sweeny et al, 2000) of the depressed group and the control group, it was found that the symptom burden of depressive patients was strongly related to their decision making cognitive dissonance. Symptom burden in this sense relates to the perceived severity of symptoms. It is understood that this finding means that the participants that reported more intense depression symptoms also experienced more post-decisional dissonance than those depressed participants with less intense symptoms. The depression and dissonance variables shared almost 50% of their total variance.

The reasons why OCD patients showed more dissonance and why dissonance increased with depression symptom intensity were not clarified by the study. The authors do suggest the possibility that the information processing of compulsive thoughts in patients with OCD may lead to more dissonance than in non-OCD individuals. They offer no explanation for any connection between dissonance and depression. This lack of speculation could be considered a weakness of this particular study.

7. Stalder et al (2014), USA

The study conducted by Stalder and Anderson (2014) sought to test for a connection between depression and cognitive dissonance. The authors conducted a between-group's comparison within a participant group that were dichotomised based on a depression score (CES-D). The main aims of the study were, firstly, to investigate whether participants with a higher depression score would report a stronger dissonance effect, and secondly, whether high-depressed individuals would be less likely to trivialise negative events than low-depressed individuals.

The authors used a modified induced-compliance paradigm. This required participants to imagine that they were an actor that was asked to read a story that involved them betraying their principles. The stories varied in their consistency levels, i.e., the discrepancy between the actor's ideals and behaviour varied from high to low in their consistency. Levels of discomfort were measured as a dependent variable, as was the participant's ability to trivialise. A rise in discomfort scores from low- to high- inconsistency conditions constituted the dissonance effect.

The authors found that only high-depressed participants and not low-depressed participants showed a dissonance effect. That is, only high-depressed participant's feelings of discomfort rose from low- to high-inconsistency conditions. The authors also found that trivialisation quite possibly mediated this depression-dissonance relation. As high-depressed participants' discomfort rose from low to high inconsistency, their tendency to trivialise decreased. The authors proposed that these findings indicate that depressed individuals are more sensitive to dissonance manipulations. The authors conclude that treatment of depression could be made more effective by utilising dissonance process, although they did not suggest how this might be achieved.

8. Montesano et al (2014), Spain

In this study, Montesano et al. (2014) investigate the relationship between dysthymia (a mild but persistent form of depression) and a type of cognitive conflict known as 'implicative dilemma'. Implicative dilemma (ID) is a concept similar to cognitive dissonance. It is similar in that it pertains to conflict relating to the 'self'. Implicative dilemmas are based on Personal-Construct Theory which is a theory developed by George Kelly (1955) that describes how a person construes or 'constructs' self-related conflicts. A simplified example of an implicative dilemma would be someone that considers themselves to be timid and would like to become more assertive, but who also believes that assertive people are rude. The conflict exists in the discrepancy between how they would ideally like to be and the perceived implication of that change. Implicative dilemmas are measured using the Repertory Grid Technique (Kelly, 1955). This is an interviewing technique that identifies how a person constructs or gives meaning to his or her experience, based on how important others are classified according to the construct a person uses (Kelly, 1955).

The authors assessed the presence of implicative dilemmas among a participant sample group (n=46) with dysthymia (persistent mild depression) compared with a control group of healthy subjects (n=496). The authors found almost twice as many implicative dilemmas in the dysthymic group compared to controls. Results showed that participants in both groups with this type of conflict showed more depressive symptoms. Results also showed that greater numbers of implicative dilemmas were associated with higher levels of dysthymia symptom severity. The authors propose that these results suggest that therapists could benefit from screening for the presence of conflicts in helping patients that experience dysthymia.

9. Basha (2015), Egypt

Basha (2015) conducted a descriptive correlative study with the broad aim of examining the relationship between rumination, cognitive distortion, anxiety, and depression. The study also explored whether rumination and cognitive distortion could serve as predictors of anxiety and depression. Rumination is a major symptom and contributory factor of depression. It involves a compulsive, unproductive focussing of one's attention on negative thoughts. Cognitive distortions are exaggerated or irrational thought patterns that are believed to perpetuate the effects of psychopathological states, especially in depression (Kaplan & Sadock, 1988).

Basha measured the cognitive distortions in participants in terms of: failure generalisation, exaggerations, and self-blame. These are however only some examples of the many types of cognitive distortions that an individual may experience. Rumination was measured using the Ruminative Response scale (Nolen-Hoeksema, 2000), Cognitive distortion was measured using the Self-Automatic Judgement Questionnaire (Salama, 2014) and depression symptoms were measured using Beck's Depression Inventory – II (Beck, Steer, & Brown, 1996). The results showed that there was indeed a positive correlation between rumination and cognitive distortion. Results also showed that higher levels of rumination and cognitive distortion also predicted higher levels of depression. These results tie in with Beck's cognitive theory of depression that states that depression results from a negative self-image which is formed by cognitive distortions and biases in memory, attention, and cognitive processing.

The key difference between cognitive distortions and cognitive dissonance is that cognitive dissonance serves as a motivation to help an individual reduce the inconsistency between two discrepant cognitions, whereas cognitive distortions are inaccurate thoughts that may seem rational and accurate to the person but only serve to keep that individual feeling bad about themselves. The key connection between cognitive distortion and dissonance here is that a person experiencing cognitive dissonance might be vulnerable to irrational and inaccurate thoughts as a means to resolving the conflict. This is especially true if resolving the dissonance through behaviour change is an undesirable or unavailable option. For example, someone experiencing guilt, shame, or regret about something they can't fix or change (dissonance) might engage in self-blame to the extent that it begins to seriously impact the rest of their lives (distortion).

10. Rohde et al (2016), USA

The study conducted by Rohde, Stice, Shaw, and Gau (2016) was a pilot trial of a dissonance-based intervention in the treatment of depressive symptoms. It was an experimental design, pre-test/post-test comparison of two groups. This study used an induced-compliance dissonance paradigm. The induced compliance paradigm requires participants to act contrary to an existing attitude. It is the inconsistency between the participant's public behaviour and pre-existing attitude that creates cognitive dissonance. In this case, participants in a dissonance-intervention condition were asked to engage in a role-playing exercise over several sessions.

The study involved the comparison of two groups that were exposed to one of two interventions designed to reduce depression symptoms. The first intervention was based on dissonance theory. The second intervention was based more simply on an information/educational brochure obtained from the National Institute of Mental Health (NIMH). All participants scored a minimum of 20 on the CES-D depression scale which suggests an elevated level of depression symptoms. Participants were randomly selected for one of the two intervention groups. The first participant group took part in an intervention that contained elements of cognitive dissonance theory. The dissonance intervention consisted of six weekly one-hour sessions. Participants were required to engage in a mixture of role play exercises and publicly commitment to positive cognitive and behavioural exercises. The second intervention based on the NIMH informational brochure served as a control comparison group. The informational brochure contained information describing major depressive disorder symptoms and treatment.

The main objectives of the study were to assess the feasibility of the dissonance intervention and also its impact on depression symptoms in a preliminary trial. The study's findings show that the dissonance intervention appears highly feasible and showed positive indications of reduced depressive symptoms (acute phase) and depressive disorder onset when compared to a minimal intervention control condition. The study is however limited in its relatively small sample size (n=51) which has resulted in limited power to detect small statistical differences and unstable effect values. The study's authors also highlight that they have no way of accurately measuring the cognitive dissonance experienced by the participants. The authors suggest that accurately measuring the onset of dissonance (induction) would require the moment-by-moment assessment of physiological arousal, such as heart rate. This was deemed prohibitively disruptive and expensive for this study. The findings of this study are however a positive indication of the value of dissonance theory in the examination of the mechanisms that account for changes in depressive symptoms.

11. Montesano et al (2017), Spain

This study is by the same researchers as the previous study and is again based on the sources of cognitive conflict identified by personal construct theory. It is a small sample study (n=10) that explores the potential benefit of an intervention for depression based around addressing implicative dilemmas. Montesano et al divided a sample of ten patients into two groups based on the outcome success of the patient's treatment (good vs poor outcome cases). Implicative dilemmas were identified using the Repertory Grid Technique. Participants completed two post-

treatment interviews. The first was 'The Client Change Interview' that is designed to assess possible causal links between the work carried out in therapy and the changes perceived by the client. The participants' progress was also measured using the 'Innovative Moments Coding System'. This is a qualitative method used to track 'innovative moments' in therapy sessions. Innovative moments are instances in which clients challenge their dominant problematic self-narrative by producing an exception to it (Goncalves, Matos, & Santos, 2009).

The study's findings showed that participants that presented with more successful outcomes showed a significant reduction in the presence and proportion of conflicts. The study does however have limitations. The small sample size precludes further parametric statistical analysis. The study is also correlational in nature which means no causal relationship may be established. The results nevertheless supported the author's proposal that it may be beneficial to screen for the presence of conflicts in patients who experience difficulty overcoming symptoms. This finding is particularly relevant to the present dissertation given the relationship of implicative dilemmas with cognitive dissonance and given the indication of the potential benefit of basing an intervention strategy on conflict theory. It may serve as a way to enhance patient-case formulation and shed light on the personal factors that maintain or worsen depression.

3.4 Discussion

Of the eleven research studies that were eligible for this literature review, eight consisted of studies that used a quantitative experimental design where two or more groups were compared to investigate the relationship between depression and cognitive dissonance (Baumann et al., 2014; Montesano et al., 2014; Montesano, Gonçalves, & Feixas, 2017; Rhodewalt & Agustsdottir, 1986; Rohde et al., 2016; Stangier et al., 2007; Van Steenbergen et al., 2010). Of the three remaining studies, there is one correlational study (Basha, 2010), one questionnaire-design study (Zhan & Shen, 1984), and one PhD thesis (Rothenberg, 1983). Four studies used a specific dissonance experimental paradigm (Induced-compliance paradigm and post-decisional paradigm). The remaining studies used either a variation of an experimental paradigm (strategic self-presentation) or a related form of self-related inner conflict (implicative dilemmas, intrapersonal conflict).

The relatively low number of eligible studies in this literature review highlights the lack of exploration and understanding of the link between depression and cognitive dissonance. There is no definitive study or experiment that fully elucidates the connection between these two

phenomena. The combined findings of this literature review do however offer promising support for further investigation. These findings offer the following key points of support:

- Depressed individuals experience more intrapersonal conflict compared to non-depressed individuals (Stangier et al., 2007).
- Depressed individuals are more susceptible to dissonance manipulations than non-depressed (Stalder & Anderson, 2014).
- A dissonance-based therapeutic intervention showed greater reduction in depressive symptoms compared to a control group (Rohde et al., 2016).
- Inner conflicts in the form of implicative dilemmas are more prevalent in individuals with depression compared to non-depressed individuals. Also, the number of depression symptoms and their severity increase as the number of conflicts increases (Montesano et al., 2014).
- Conflict focussed cognitive behavioural therapy is associated with better therapeutic outcomes in a small sample compared to standard CBT (Montesano et al., 2017).

These studies suggest a promising and parsimonious picture of the relationship between depression and cognitive dissonance theory. Investigations of this relationship so far have been largely based on quantitative methodologies. The aim of the present study is to further investigate this relationship but with a greater focus on qualitative data. One major advantage of this qualitative approach is that it does not restrict the investigation to a single type of cognitive dissonance (e.g. post-decisional dissonance, Baumann et al., 2014). Nor does it rely on a vague and overarching concept of inner conflict (e.g. intrapersonal conflict, Stangier et al., 2007). The strength of conducting a qualitative data-driven investigation such as this is in its openness and flexibility in terms of participants' own experiences of cognitive dissonance and dissonance resolution. To this end, the following chapter presents the methodology and data analysis plan for the present study.

4: Methodology

The previous chapters presented and discussed the literature on the relationship between depression and cognitive dissonance, the central topic of this PhD thesis. In this chapter, the methodology will be introduced, starting with philosophical underpinnings and theoretical framework. In any research study it is fundamentally important to ensure that the main research question is addressed using the appropriate ontological, epistemological, axiological, and methodological assumptions (Crotty, 1998). These considerations will determine the research paradigm which is in this case, pragmatism. The reasons for applying pragmatism to the current study will be explained. The chapter is structured using Crotty's model of levels of developing a research study (Crotty, 1998), see figure 4.1. Each aspect of the methodology is discussed in detail: study design, data collection process, data analysis, and ethical considerations. This chapter begins by presenting the aims and objectives of the study, followed by the philosophical approach, and the theoretical framework used to inform the study.

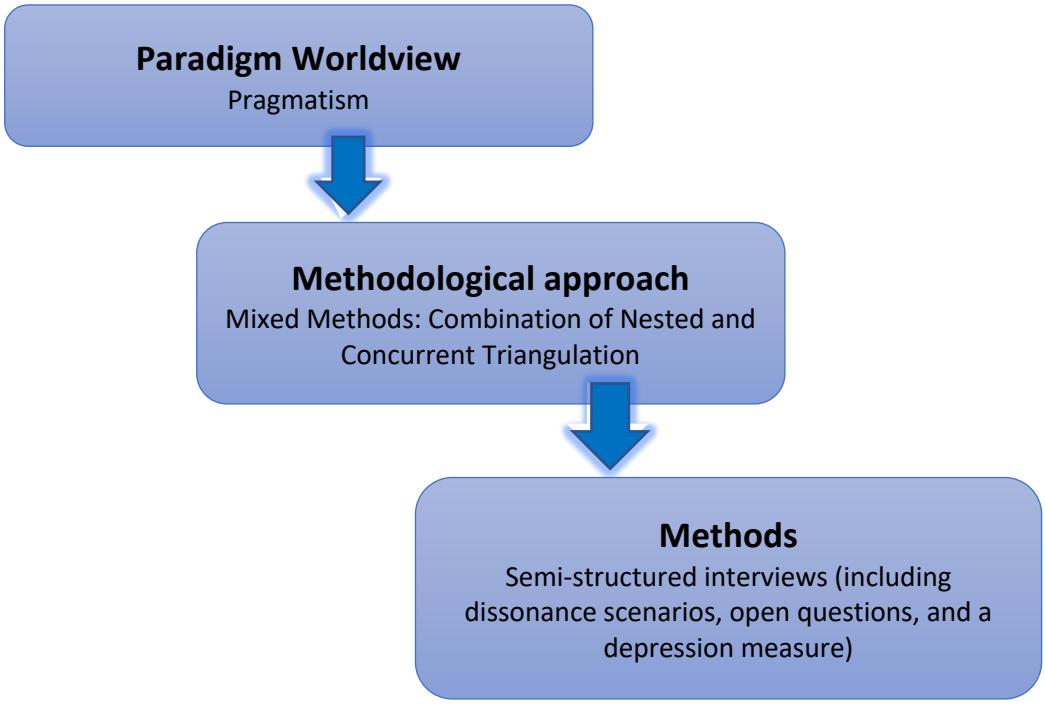

Figure 4.1: Study Paradigm, methodology, and methods overview (Crotty, 1998).

4.1 Aims and objectives

The overall research focus of this study is to explore how cognitive dissonance relates to depression. The study aims to identify whether and in what ways cognitive dissonance is experienced in individuals with and without a diagnosis of depression. The specific objectives for the study are as follows:

v. To develop a model that relates mechanisms of cognitive dissonance to depression.

vi. To identify in interviews episodes of cognitive dissonance in two participant groups, with and without a diagnosis of depression.

vii. To analyse how different aspects of cognitive dissonance, which are part of the model (induction, experience and reduction efforts) are experienced by the two groups. Specifically aspects relating to:

    a. Sources of dissonance and dissonance arousal.
    b. The subjective experiences of dissonance.
    c. How dissonance is reduced or resolved.

viii. To make a comparison between the two groups in regard to their experience of cognitive dissonance:

    a. In their response to everyday dissonance inducing scenarios (quantitative).
    b. Of their experiences of dissonance as described in semi-structured interviews (qualitative).

4.2 Choosing the research paradigm

A research paradigm is a shared 'worldview' that represents the beliefs and values in a discipline (T. Kuhn, 1962). The word has its etymology in Greek where it means 'pattern'. In educational research the term refers to the researcher's 'worldview' (Mackenzie & Knipe, 2006; Morgan, 2014). The researcher's worldview is the perspective or thinking that informs the meaning or interpretation of the research data (Kivunja & Kuyini, 2017). The research paradigm describes the philosophical stance taken by the researcher and determines not only the nature of the research question but also the interpretation of his/her findings. A researcher's philosophical stance is made up of the ontological, epistemological and axiological assumptions about what knowledge can be known and how it can be known. The following section will contrast the main theoretical research paradigms in terms of the philosophical concepts that underpin them, in order to provide a justification for the paradigm used for the present study.

4.2.1 Research paradigms and philosophical underpinnings

Research paradigms differ in their approach to the nature of knowledge and how that knowledge may be obtained. A fully comprehensive account of all research paradigms currently used in the social sciences may be beyond the scope of this thesis. However, in order to gain an appreciation of the nature and importance of theoretical paradigms used in research, it may suffice here to contrast two of the most widely discussed paradigms. Two of the most commonly used research paradigms are positivism/post-positivism and interpretivism/constructivism (Denzin & Lincoln, 2008; Guba & Lincoln, 1994). These two paradigms are markedly different in how they approach knowledge and research. Research paradigms are characterised by distinct philosophical elements such as epistemology (the relationship between the researcher and that which is being researched), ontology (the nature of reality), axiology (the role of values), and the methodology (the process of the research). These aspects combine to describe the philosophical underpinnings of a research study. Teddlie and Tashakkori (2009) label these philosophical elements as 'dimensions of contrast' (p 22). As such, they allow a comparison to be made between each research paradigm. Each of these philosophical elements are described here in relation to the major research paradigms. The research paradigm of the present study is also presented in terms of its philosophical underpinnings.

Positivism/post-positivism asserts that empirical observation and experimental testing is the most appropriate basis for producing scientific knowledge for the social sciences (Smith, 1998). Positivism considers knowledge as existing in a single reality which can be measured and known objectively. It is the paradigm that is mostly associated with the scientific method and quantitative methodology. It forms the philosophical basis of knowledge that may be verified through the senses and interpreted by logic and reasoning. It is widely accepted that the positivist approach in the purest sense is more of idealistic rather than realistic. The scientific pursuit of knowledge is fraught with the complexities of human bias and error. Post-positivism is a paradigmatic response to the practical shortcomings evident in the positivist approach.

Interpretivist philosophy, on the other hand, is more closely associated with qualitative methodology. It considers knowledge as a construct of the individual, that there are multiple realities, and that knowledge is subjective. Methodological purists have in the past strongly advocated for a dichotomy of worldviews and paradigmatic stances (Creswell & Clark, 2007). In their view, these paradigmatic perspectives are incommensurate with one another and are fundamentally incompatible. That is, the knowledge generated from one paradigm is unrelated (and un-relatable) to knowledge created by the other. This paradigmatic standoff led to a

methodological impasse of sorts and was known as the 'incompatibility thesis' (Onwuegbuzie & Leech, 2005). The pragmatist paradigm however offers an alternative worldview to that of positivism and interpretivist and is a research paradigm that overcomes this impasse. A discussion of pragmatism will follow a description of the philosophical underpinnings of research paradigms.

4.2.2 Ontology

Ontology is concerned with the nature of reality. More specifically, it refers to the philosophical study of existence and being. Ontology is concerned with whether or not there is one objective reality that is shared by all people or whether reality is unique to every individual based on their experience (Guba & Lincoln, 1994). The ontological stance of a researcher is important because it reflects how he/she interprets what constitutes a 'fact' or whether 'facts' even exist. There are two broad and contrasting positions in the ontological approach to research: objectivism and subjectivism. Objectivism holds that there is an independent reality, that is, a reality that is independent from the observer. This is the ontological perspective that is most closely associated with the positivist approach to research. Researchers with a positivist orientation assume that reality is knowable through conventional scientific means; through observation and logical reasoning (Tuli, 2010). Research findings from this perspective are usually represented quantitatively through empirical data that can stand alone for anyone to appreciate. Subjectivism, on the other hand, perceives that knowledge (especially in terms of social phenomena) is socially constructed and that people make their own sense of social realities. Subjectivism is most closely associated with the interpretivist\constructivist perspective. Interpretivist-orientated researchers use qualitative methodologies (such as interviews) to investigate, interpret, and describe how people in general experience social reality. The interpretivist perspective allows a researcher to observe how a participant constructs and perceives their own reality. The pragmatic perspective allows for the combination of both the objective and subjective ontological approach in the pragmatist's investigation. The ontological stance of pragmatism allows for this combination because it values both the objective and subjective experiences of reality. In pragmatism, objectivity and subjectivity are both deemed relevant if that is what is called for to answer a research question.

Cognitive dissonance has been traditionally investigated from an objectivist perspective. Dissonance could however be said to walk an ontological tightrope of there being a reality in which inconsistency and consistency may both subjectively and objectively exist. There may be an objective inconsistency, but the experience of this is subjective and different for each individual

and at various times. A research paradigm that can appreciate both the objectivity and the subjectivity of the phenomenon, such as pragmatism, would appear to be appropriate.

4.2.3 Epistemology

Epistemology refers to the nature of knowledge. More specifically, it refers to the relationship between the researcher and the knowledge being sought. The study of epistemology focusses on how information is acquired and how the difference between 'truth' and 'falsehood' can be achieved (Cline, 2008). The epistemology of the positivist perspective emphasises that the knowledge sought by the researcher exists regardless of the researcher's beliefs or perspective (Hudson & Ozanne, 1988). That is, researchers who adopt the positivist perspective believe that there is a definite distinction between the knower and what can be known. Interpretivists, on the other hand, believe knowledge to be a co-constructed property that emerges from the interaction between the researcher and the knowledge being investigated (Teddlie & Tashkkori, 2009).

Pragmatism represents a compromise between these two perspectives. From an epistemological standpoint pragmatism assumes that the relationship between the researcher and the knowledge under investigation is neither separate (positivism) nor co-constructed (interpretivism) but in fact lies on a continuum. This conceptual continuum has at one end a more positivist/post-positivist viewpoint, that knowledge is independent of the researcher. It has at the other end the interpretivist viewpoint, that knowledge is co-constructed. At some points during the research there may be required a highly interactive relationship when answering complex questions. At other points there may not be any need for interaction at all (Greene & Hall, 2010). Central to the epistemological stance of pragmatism is John Dewey's (1949) transactional view of knowledge which proposes that knowledge cannot be viewed as exclusively objective or subjective but as an interaction between the two (Greene and Hall, 2010).

In epistemological terms, the information being sought for this study is necessarily co-constructed. That is, it might not exist outside the interaction between the researcher and participant. The information being sought from both the quantitative and qualitative aspects of the study rely on the participant's personal understanding of their unique psychological experience. This data is however to be interpreted using dissonance theory which has been formulated and been continuously revised through positivist/post-positivist epistemological means. The purpose of this study is not to ultimately achieve objective knowledge but to provide an exploration of how meaningful dissonance mechanisms could be applied to further understand the cognitive processes in depression. The study is being conducted with a view to providing an added understanding of depression.

4.2.4 Axiology

Axiology is concerned with the nature of values and how we conceptualise the role of the researcher's own values and how they affect research. Axiological differences between research paradigms can be stark. Positivists believe that enquiry should be value free and unbiased, with researchers going to great lengths to eliminate bias. Alternatively, interpretivists believe that the researcher's values are inextricably linked to enquiry. They believe that values play a large role in how they conduct their research and the conclusions they make but will acknowledge them and make them explicit. The pragmatic perspective proposes that values are situational and relative. In pragmatism, values can be biased and unbiased depending on the research design that is being used to answer the research question. For pragmatists, values precede a search for descriptions, theories, explanations, and narratives. Pragmatic research is driven by anticipated consequences (Cherryholmes, 1992). Pragmatists choose what they want to study based on what is important within their own personal value system (Teddle & Tashakkori, 2009). This description reflects more accurately how researchers actually conduct their studies.

The axiology of the present study can be considered partly neutral in the sense that what is being sought is fundamental knowledge about the application of dissonance theory. The researcher's values do however play an important role in the present study. The present study has been motivated by concern of the cost of depression, at both an individual and a societal level. The research objective, to explore how dissonance theory can further the understanding of depression, has been motivated by the researcher's interest in the explanatory power and the comprehensive psychological mechanism encapsulated in dissonance theory. The research objective has been influenced by the author's value of interdisciplinary research and the potential contribution that dissonance theory can make in furthering the understanding of depression.

4.2.5 Research paradigm: Pragmatism

Pragmatism is a philosophical stance that was first popular around 1870 and is attributed to Charles Sanders Peirce, William James, and John Dewey. Pragmatists reject the traditional assumptions about the nature of knowledge. Pragmatism challenges the idea that there is only one single way of researching the 'real world' (Morgan, 2014). It is a paradigm that is, according to Sleeper (1986), "rooted in common sense and dedicated to the transformation of culture" (p.8-9). Pragmatism proposes that reality is constantly renegotiated, debated, and interpreted. Pragmatism proposes that the best method to use is the one that is best suited to answering the research question most effectively. Therefore, pragmatism is a philosophy focused on outcome

and consequence. The results of enquiry take precedence over the methodology. Pragmatism values both objective and subjective knowledge (Biesta, 2010). The mixed methods design utilised in this study is based on the philosophy of pragmatism.

Pragmatism is recognised as the philosophical basis for most mixed methods research. It is an approach to research that allows the integration of perspectives and approaches (Johnson et al., 2007). Table 4.2 is provided below to help contrast the basic characteristics of pragmatism from the two most popular paradigms.

Table 4.1:Characteristics of positivist, interpretivist, and pragmatic research paradigms (Creswell, 2009).

Positivist/Post-positivist	**Interpretivist/ Constructivist**	**Pragmatist**
Determination	Understanding	Consequences of actions
Reductionism	Multiple participant meanings	Problem-centered
Empirical observation measurement	Social and historic construction	Pluralistic
Theory verification	Theory generation	Real-world practice orientated

4.2.6 Methodology – Pragmatism as a foundation for mixed methods

Methodology has been considered to be a forced choice between the positivist scientific model of research that is more commonly associated with a quantitative approach and the interpretivist approach associated with a more qualitative approach. This forced choice was most likely brought about due to the dichotomy of philosophical stances research paradigms. That is, quantitative and qualitative methods were set in diametrical opposition due to the 'incompatibility thesis', which been well documented (Howe, 1985; Bryman, 2006; Morgan, 2007; Harrits, 2011). Pragmatism provides the rational basis for the combination of quantitative and qualitative methods as long as it is necessary to answer the research question.

Pragmatism is a philosophical stance that was first popular around 1870 and is attributed to Charles Sanders Peirce, William James, and John Dewey. Pragmatists reject the traditional assumptions about the nature of knowledge. Pragmatism challenges the idea that there is only one single way of researching the 'real world' (Morgan, 2014). It is a paradigm that is, according to Sleeper (1986), "rooted in common sense and dedicated to the transformation of culture" (p.8-9). Pragmatism proposes that reality is constantly renegotiated, debated, and interpreted. Pragmatism proposes that the best method to use is the one that is best suited to answering the

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Pragmatism is recognised as the philosophical basis for most mixed methods research (Tashakkori & Teddle, 2003; Creswell, 2003; Patton, 1990). It is an approach to research that allows the researcher to integrate perspectives and approaches (Johnson et al., 2007). To help understand how pragmatism is situated in the paradigmatic worldview, a table is provided below distinguishing the basic characteristics of the three most popular paradigms. Pragmatism has several key characteristics that helps justify mixed methods methodology. Firstly, pragmatism does not commit to a singular philosophy or school of thought. It rejects the monism of traditional paradigms such as positivism and interpretivism and seeks instead to find a middle ground (Johnson & Onwuegbuzie, 2004). Secondly, pragmatism values and adheres to both the subjectivism of the social construction theory of reality (Berger and Luckmann, 1991) which asserts that knowledge is constructed on the basis of our social interactions and objectivism that asserts that knowledge exists independent of a socially constructed reality (Johnson & Onwuegbuzie, 2004). This duality allows for the integration of qualitative approaches with quantitative ones as it embraces both forms of knowledge. Thirdly, pragmatism maintains that truth is mutable rather than static. It comes about from an iterative process that involves re-evaluating and re-thinking (Johnson & Onwuegbuzie, 2004).

The philosophical position of pragmatism therefore encourages the combination of qualitative and quantitative approaches that are inherent in mixed methods research. When applied in this research study, the pragmatist paradigm facilitated this incorporation of both quantitative and qualitative to meet the research objectives. It firstly allowed the comparison of two participant groups in terms of cognitive dissonance and depression. A quantitative method was most appropriate here and was derived from a positivist paradigm where objectivity is sought (Crotty, 1998). Secondly, it allowed a deeper investigation into the personal experiences of cognitive dissonance in terms of participants' everyday lives. The qualitative methods most suited to this end emerged from an interpretivist paradigm where multiple realities are acknowledged (Shwandt, 1998) and where researchers seek to uncover the participant's reality through the process of detailed descriptions of their reality (Appleton and King, 2002). The pragmatic approach to this study facilitated the selection of research methods based on different paradigms that ultimately allowed the research objectives and the overall research aim to be met.

4.3 Study Design – Mixed Methods

A mixed methods approach involves combining both quantitative and qualitative data in terms of data collection, analysis, and integration. This research technique is used when an integrated approach may provide a better understanding of the research problem than either quantitative or qualitative methods can alone. As the relationship between depression and dissonance theory is potentially complex and currently without an established methodological precedence, a mixed methodological approach would appear to be most suitable. There are four main mixed-methods designs and it is the overall purpose of the research question, (e.g., exploration or generalisation) that determines which design is most appropriate. The four main mixed-methods designs: Sequential Explanatory design, Sequential Exploratory Design, Concurrent Triangulation, and Concurrent Nested (Creswell, 2003). These designs can differ in terms of the timing or the sequence in which the data is collected, the number of phases used for data collection, and how that data is integrated.

4.3.1 Types of Mixed methods Research Design

Sequential Explanatory design is a two-phase design where the quantitative data is collected first followed by the qualitative data. The qualitative data is analysed first and used to further explain and interpret the findings from the quantitative phase. For example, a survey may be used to collect quantitative data from a larger group. A sample of members from that group may be selected to interview to gain a greater insight into the survey findings.

Sequential Exploratory Design is also a two-phase design. In this design the qualitative data is collected first, followed by the collection and analysis of the quantitative data. This design can be used to develop an instrument, such as a survey, to develop a classification for testing, or to identity variables. In the case of this design, a researcher might explore people's beliefs and knowledge on a particular topic through interviews and use this information to develop a survey to be administered to a larger population sample.

Concurrent Nested design consists of a single data collection phase where quantitative and qualitative data are collected concurrently. In this design priority is given to either the quantitative or qualitative method of data collection. The lesser prioritised data is nested or embedded into the project and provides more of a supporting role. The embedded data may be often used to address a different question to the primary research question. The two types of data are integrated during the analysis phase of the project.

Concurrent Triangulation design also consists of a single phase of data collection. Quantitative and qualitative data is collected concurrently and analysed separately, and then compared or

combined. In the case of this design, a researcher might, for example, collect both survey and interview data at the same time and compare the results. The findings are integrated during the interpretation phase of the study. This method is used to develop a more complete understanding of a topic or phenomenon.

4.3.2 A Hybrid Mixed Methods Design

The type of mixed methods research used in this study is a combination of concurrent nested and concurrent triangulation design. That is, the study consists of a single phase of data collection where both quantitative and qualitative data are collected. The quantitative data aspect of the study (described below in Section 4.5.1) consists of two questionnaires. The first questionnaire is a depression scale (CESD-10) that provides a measure of current depression symptoms. Consistent with a nested design, this aspect of the study provides more of a supporting role to the qualitative aspect. The primary function of the depression scale is to confirm the distinction between both participant groups in terms of experience of depression. The second quantitative assessment tool is the DiEL questionnaire (also described below) which provides a measure of dissonance discomfort. The reason for using this measure was to see whether or not there was a difference between the participant groups in the amount of discomfort that was generated. The integration of the results occurred in the interpretation phase of the study through the discussion of the overall findings of the study and is therefore consistent with a concurrent triangulation design. The type of mixed methods design used for this study was therefore a hybrid design that combined elements of concurrent nested and concurrent triangulation design (Figure 4.2). The rationale for using this particular research design is that it allowed for the concurrent but separate collection of multiple data sources to best understand the research problem. This was achieved by merging the two data sets, typically by bringing the separate results together into one overall interpretation.

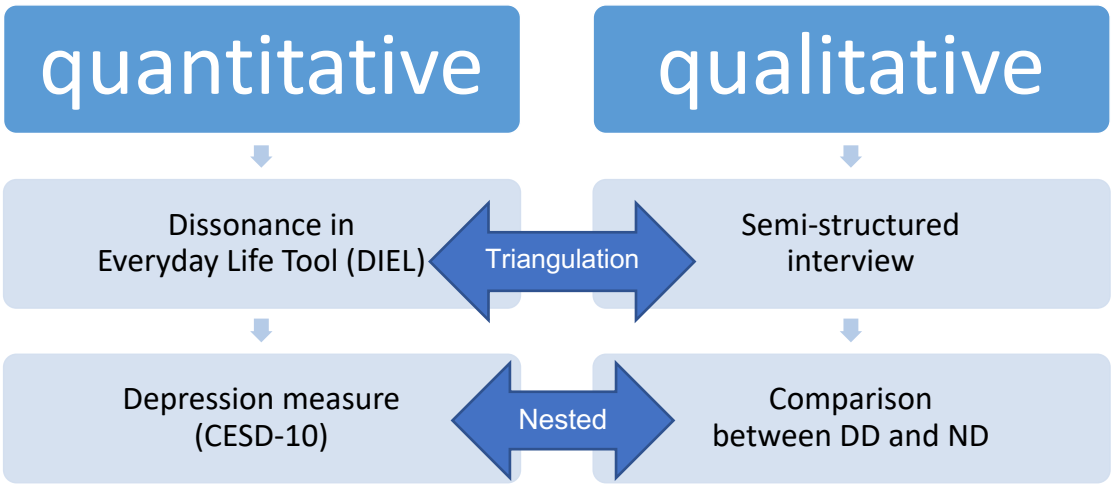

Figure 4.2: A hybrid design for the present study. DD: Depression diagnosis participant group. ND: Non-depressed participant group.

4.3.3 Considerations when choosing a Mixed Methods Design

When choosing a mixed-methods design there are three main considerations a researcher must take into account. These considerations concern the timing of data collection, the priority given to a quantitative or qualitative approach, and the integration of quantitative and qualitative data (Creswell and Clarke, 2007). These issues are discussed here in relation to how a hybrid concurrent design was chosen for this research.

When choosing a research design, it is important to consider the timing or sequence in which the quantitative and qualitative data will be collected. In Sequential Explanatory and Sequential Exploratory research designs, there are two data collection phases. These types of research designs are useful for situations where it is more useful to have a first stage of data collection and analysis complete so that it may inform a second stage of data collection and analysis. As such, the second stage is determined by the results of the first. Such a multi-phasic approach is not necessary for the present research as the quantitative and qualitative data are integrated later at the discussion stage. For this reason, a concurrent design is deemed to be more appropriate.

The priority that is assigned to quantitative and qualitative phases must also be considered when choosing the most appropriate research design. This is usually determined by practical considerations such as whether it is necessary to understand one form of data before proceeding to another. This was not the case for the present study. However, as this study is primarily

exploratory in nature, it follows that there will be more emphasis on the results of the qualitative data collection and analysis.

The integration of data refers to the stage at which in a mixed methods study where the quantitative and qualitative data are integrated. This integration can occur at several points in a mixed methods research study. These points rage from the beginning stage of the study while formulating the research question (Teddle & Tashakkori, 2003), to the integration at the interpretation stage in the discussion (Onwuegbuzie & Teddle, 2003). The concurrent triangulation aspect of this research design was justified in this context as the integration of methods occurs at a later interpretation stage.

4.4 Methods - Participants

This section describes the participants involved in this study and how they were recruited. This section summarise the demographic information of all participants and will outline the recruitment process. This study involved two groups, each consisting of fifteen participants. The first group (Group 1) consisted of a purposive sample of participants that each have experience with depressive episodes. The second group (Group 2) consisted of a purposive sample of fifteen participants who had no significant experience of depressive episodes. The function of Group 2 was to serve as a healthy comparison group. A healthy comparison group is a type of qualitative comparison group that is used to compare those who have an illness or a chronic condition to healthy participants (Lindsay, 2019).

4.4.1 Eligibility Criteria

The eligibility criteria were developed to maximise the availability of relevant and meaningful data. As this study is exploratory in nature, it was felt that a wide inclusion criteria was important. The inclusion criteria were as follows:

Depressed group participants:

- Participants with a diagnosis of Major Depressive Disorder or Bipolar Disorder within the last five years
- Ability to give consent
- Over 18 years of age

Healthy comparison group participants:

- Participants will have never had a diagnosis of depression nor will they have ever met the criteria to warrant a diagnosis.

- Ability to give consent
- Over 18 years of age

The exclusion criteria were as follows:

Both participant groups:

- Participants who do not consent or have changed their mind about participating.

4.4.2 Participant recruitment

Group 1 (Depression Diagnosis: DD)

Each participant in Group 1 was recruited through a Health Service Executive Consultant Psychiatrist that agreed to act as a clinical gatekeeper for this study. Each participant of this had a diagnosis of either major depression, or bipolar depression.

The recruitment strategy was as follows:

Step 1: The clinical gatekeepers identified suitable potential participants to whom a letter of invitation to the study was provided.

Step 2: Potential participants were contacted by phone by me and asked if they would like to take part in the study.

Step 3: Potential participants were then forwarded the relevant information outlining the details of what participating would involve. The participant information leaflet and consent form are provided in the appendices. Each potential participant was given seven days to consider whether they would like to take part in the study.

Group 2 (Non-Depressed: ND)

The second group of participants also consisted of fifteen participants and was a sample of convenience. This group consisted of participants for whom the main criteria was that they have never had a diagnosis of depression. It was important that participants in this group had not experienced prolonged periods of low mood that could possibly be considered undiagnosed depression.

Participant demographics:

Participants were matched in terms of the following demographic information: age, gender, and education level. Education level was measured using the National Framework of Qualifications (NFQ) which provides an index of levels of education in Ireland and rages from one to ten. Group

1 consisted of 8 female and 7 make participants. Group 2 consisted of 11 female and 4 male participants. The average age of participants in Group 1 was 49.7 years. The average age for Group 2 was 37.8 years, yielding a difference of 11.9 years. Education level was compared using the National Framework of Qualifications (NFQ) which provides an index of levels of education in Ireland and rages from one to ten. The average NFQ score for Group 1 was 6.2 whereas the average for Group 2 was 5.7.

4.4.3 Ethical Considerations

There are many ethical considerations that must be taken into account when dealing with a potentially sensitive population sample. It is necessary to minimise and eliminate any potential harm that might inadvertently come about by being a participant in the study. Full ethical approval was obtained from:

- School of Nursing and Midwifery Trinity College Dublin
- Faculty Research Ethics Committee Trinity College Dublin
- Clinical Research Ethics Committee, Galway University Hospital
- Beaumont Hospital Ethics (Medical Research) Committee

Both DD and ND participant groups were asked to send a written notification (contact form) to indicate their willingness to take part in the study. The written information received by potential participants contained details of the study which included the purpose, process, potential benefits and harms, data collection procedures, time commitment, voluntary participation, the right not to participate, the right to withdraw without prejudice, assurance of confidentiality (including in any subsequent study publications), researchers contact details, and an offer to answer any questions. Participants were given at least one week to gather any required information before giving consent. Formal written consent was obtained prior to each interview. Each participant was asked to sign a written consent form consenting to be interviewed and tape-recorded. Each participant received a copy of the consent form.

4.4.4 Description of participant recruitment and the locations of data collection

This section describes the researcher's experience of participant recruitment and describes also the locations of data collection. and The DD group were recruited through clinical gatekeepers that I had been introduced to (through email) by my supervision team. The gatekeepers were

approached in turn (i.e. one at a time), and not simultaneously. This was due mainly to the necessity of obtaining separate ethical approval through the ethics committees governing each clinical site. This was a time-consuming process and potentially subject to application amendments. For the purpose of participant confidentiality, the identities and locations of the clinical gatekeepers (which are also the locations of participant interviews) are not identified in this thesis. The clinical sites through which DD group participants were recruited will be referred to here as Site 1 and Site 2.

Once ethical approval had been obtained for DD group participants for Site 1, access was granted to the contact details for twenty-five patients that I was permitted to invite to participate. A letter of introduction was sent to each potential participant and was followed up by a phone call from the researcher where some details of what participation would entail were provided. Of the twenty-five individuals contacted at Site 1, four participated in the study.

These four interviews took place in a clinical assessment/consultant room in Site 1 in January and February of 2017. Each participant was met at the main door of the facility and brief introductions were made. We walked through the facility and made our way to a consultation room. The room itself could be described as a bright and clinical environment. It was modern and comfortable and well suited to the purpose of participation in this study. The clinical environment however may have done little to put the participants at their ease. It was an environment that they would be familiar with and would have met with their clinical supervisor there before. None of the participants expressed any discomfort with the room.

Once ethical approval had been obtained for DD group participant recruitment for Site 2, I was invited to participate in a weekly mental health clinical support team meeting that was chaired by the supervising clinical consultant, who was also the second clinical gatekeeper for the present study. Potentially suitable participants were identified by the clinical gatekeeper. A participant-contacting process similar to that of Site 1 was then engaged where a letter of invitation was sent, followed by a follow-up phone call by the researcher. Of the thirty-two individuals contacted through Site 2, eleven agreed to participate in the study.

These eleven interviews took place in a patient consultation room at Site 2. The room itself had been used previously used by some participants for consultation and therapy sessions with their therapists. I was aware of this fact and was careful to reiterate that it was not my intention to provide a therapeutic exchange with the participant. I also stated that previous participants had

appreciated the opportunity to share their experiences and that they hoped that it might be of some benefit in the future.

The ND group was comprised of a sample of convenience and recruited using snowball sampling strategy through a poster campaign and through word-of-mouth. Ethical permission for the ND group participants was granted by the Faculty Ethics Committee, Trinity College Dublin. This group consisted primarily of individuals that expressed an interest in participating in a psychology research study. These individuals were also asked to invite their friends and family members that they thought might be interested. Participants were asked to come to the School of Nursing and Midwifery where a meeting room could be booked for participation.

4.5 Methods – Data Collection and Analysis

4.5.1 Data collection and participant sessions

The participant sessions were scheduled in such a way that the DD group data were collected first, followed by the ND group. This was mainly due to the fact that the all the researcher's efforts were focussed on recruiting one group at a time. The data collection protocol was designed to proceed in a sequential manner through several stages: greeting and introductions, DiEL questionnaire, CESD-10 depression scale, main interview, debrief and demographic data, and post-interview notes. This data collection sequence was purposefully consistent for each participant for both groups, for two reasons. Firstly, this consistency helped to eliminate any order effect i.e., differences in participant data that could potentially be due to the order in which it was collected. The second reason for this consistent approach was that the DiEL questionnaire served a secondary purpose in that it provided in itself a list of examples of cognitive dissonance that could be referred to during the subsequent interview. By having the DiEL questionnaire precede the interview, each participant was provided with the exact same examples, in case they were needed. Also, it should be noted that an external interviewer was not recruited to conduct the interviews in place of the researcher. Although in one sense this could improve rigour through avoiding any potentially confounding biases of the researcher, there are two reasons why this was not practical. Firstly, the nature of the interviews required a degree of knowledge and familiarity with the background theory. The researcher was therefore the most appropriate available person to conduct the interviews. The second reason from a logistical perspective, it was not possible to generate the funds that would be needed to pay an external individual for their time and travel expenses to collect data for the study.

4.5.2 Data Collection methods for Phase1: QUANTITATIVE DATA

The quantitative aspect of this study was comprised of two instruments. The first was a depression scale (CESD-10) which is used to obtain a depression score. The second questionnaire was a 10-item Dissonance Discomfort in Everyday Life Questionnaire (DiEL). The dissonance questionnaire consisted of ten scenarios describing everyday situations that have been shown to induce a state of cognitive dissonance (De Vries et al., 2015). Both questionnaires are described in detail in the sections below. How the questionnaires are analysed to be analysed is described here.

Quantitative Data: Depression Scale (CESD-10)

The CESD-10 (Andresen, Malmgren, Carter, & Patrick, 1997) was used to ascertain a depression score from all participants. This scale is a 10-item self-report measure of depression that has demonstrated robust psychometric properties. A comprehensive psychometric evaluation of the tool's reliability and validity scores is reported by Miller, Anton, and Townson (2008). A numerical value (0-3) is assigned to potential responses. A total score is calculated by summing these values. Total values for the CESD-10 range from 0-30. The CESD-10 provides a cut-off score of 10 or greater that suggest a greater presence of depressive symptoms (Bjorgvinsson et al., 2013). A sample of the items from the scale is presented below in table 4.3. The full scale is included in the appendices section.

Table 4.2: Sample of items from the CESD-10 depression scale. Participant places tick where appropriate.

Items:	**Rarely or none of the time (less than 1 day)**	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of time (3-4 days)**	**All of the time (5-7 days)**
1. I was bothered by things that usually don't bother me.				
2. I had trouble keeping my mind on what I was doing.				
3. I felt depressed.				

Quantitative Data: Dissonance Scenario Questionnaire

The Dissonance in Everyday Life (DiEL) questionnaire is a questionnaire that has been adapted from De Vries et al (2015). The questionnaire is designed to measure dissonance using common everyday scenarios. The questionnaire also served as a prompt during the interviews. If ant participant was not quite sure what kind of inner conflict they were being asked to discuss, the

participant was referred to back to the DiEL questionnaire. It is comprised of ten scenarios that are each made up of four components: a principle, a statement of personal responsibility, a memory prompt, and discomfort measure. An example of one of these scenarios is presented in table 4.3.

Table 4.3: Example of one of ten items from the Dissonance in Everyday Life (DiEL) questionnaire. Each scenario questionnaire item is comprised of four components.

1.	**Principle**	*Being human means showing compassion by helping those in need.* I support this statement. Yes / No
2.	**Statement of Personal Responsibility**	*I should take the simple daily opportunities to help those in need.* Agree / Disagree
3.	**Memory Prompt**	*Do you sometimes walk by beggars in the street, avoiding eye contact and not giving them anything?* Yes / No
4.	**Dissonance Discomfort**	*Thinking of this made me feel:* Very highly unpleasant - Highly unpleasant - Unpleasant - Neutral - Pleasant - Highly pleasant - Very highly pleasant

By definition, dissonance may be considered to be induced if the participant: a) supports the principle, b) agrees to a statement of personal responsibility, and c) confirms that they remember a time when their behaviour contradicted the principle. The emotional response choices ranged from 0 ('very highly unpleasant') to 6 ('very highly pleasant'). The discomfort response score was included only if the first three components were satisfied (i.e., answered in the affirmative). This means that the discomfort score was counted only if the participant: supported the principle statement, agreed with the statement of personal responsibility, and answered 'Yes' to the memory prompt. The dissonance scenario scores were summed for each participant. A lower total score indicates a higher degree of dissonance.

The data for the CESD-10 was entered into SPSS 24 and a total score was be calculated for each participant. A comparison of means was conducted to test for any statistically significant difference between the Depressed and Non-depressed groups. This was achieved by conducting non-parametric independent samples group comparison (Mann-Whitney U-test).

4.5.3 Data Collection for Phase2: QUALITATIVE DATA

Qualitative data were obtained in order to explore the rich nature and quality of the participant's experience of inner conflict. The qualitative data for this study was collected using semi-structured interviews. These interviews were designed for this study to explore participants'

personal experiences of cognitive dissonance. The question section of interview protocol is provided here:

"I'd like to talk about a time when you were frustrated about something. In particular, I'm interested in times when you felt conflicted about something. Perhaps there was a time when your ***behaviour contradicted your principles***?"

Main Interview Questions:

1. Tell me about this episode…
    a. How did it begin?
    b. What was it about this episode that bothered you?
    c. How did it make you feel?
        i. How would you describe the level of intensity that feeling?
        ii. How long would this feeling last?
2. Can you tell me if it affected your energy levels?
    a. How so?
3. How did you cope/get past with the feelings that this experience caused?
4. How did you attempt to resolve this conflict?
    a. Were you successful?
    b. Did you have to try different ways to resolve this conflict?

4.5.4 A personal reflection of the experience of interviewing participants

It was a potentially intimidating prospect to meet and interview the DD group before proceeding to the ND participant group. However, from the first participant that agreed to take part in the study, my mind was put at ease. The general consensus among DD group participants was that they were happy to share their experiences, feeling that there was a chance that others might benefit in the future.

In my role as the interviewer, I felt that it was important to be sincere and respectful when participants offered personal details and to be sympathetic when appropriate. Above all else, it was important to realise that the focus of the interviews was on the participant and their experience, and not the research agenda.

Most of the participant sessions went quite smoothly although difficult topics were discussed by many participants. There were at least two participant interviews from the DD group that resonated with me on an emotional level to the extent that I felt it necessary to debrief with my supervisor. The first was due to the emotional state of the participant. This particular participant was quite distressed as she described her experiences. Because of this I suggested that we reschedule for another day, but the participant insisted that it was their preference to continue.

She said that it was important to her that she had the opportunity to articulate the sources of her conflict. I reiterated that the interview was not intended to be therapeutic in nature and that I was not in a position to fulfil the role of counsellor, but I told her that I was willing listen.

The second was due to the harrowing content of the participant's interview. Although, unfortunately, this was not a unique experience as harrowing experiences were discussed during several participant interviews, this one was particularly difficult. This was because the aftermath of the participant's experiences was unresolved and still had a substantial and negative impact on the participant's everyday experiences, despite close supervision from her clinical team. The experiences centred around the themes of physical and psychological abuse from family members and sexual abuse from non-family members.

As participant recruitment progressed, my nerves settled, and I became more comfortable with the participants and the interviews. This was perhaps due to a sense of knowing what to expect from a participant session. By the time I had progressed to recruitment of the ND group, I was reasonably confident that I knew what to expect. The ND group sessions were noticeably less emotionally charged in comparison to the DD group. Even so, the ND group participants still discussed many highly personal experiences. Many of these were indeed uncomfortable for the participants but not to the same extent as the discomfort described by the DD group. There was one participant in particular from the ND group that described an ongoing difficult family situation that resonated especially. It was due to the fact that the situation was ongoing for such a long time and remained unresolved and was regularly a source of distress for the participant.

Overall, it was a privilege to be permitted to share such personal experiences with so many individuals during this study. The experiences recounted to me ranged widely from trivial inconveniences that mattered only for a minute, to the most brutal physical and psychological abuses the effects of which will last a lifetime. It was a major period of personal growth in my life for which I am grateful and proud. It also serves as a source of motivation to fulfil, to the best of my ability, the responsibility that comes with research involving a sensitive population.

4.5.5 Data Analysis for Phase2: QUALITATVE DATA

Qualitative data analysis typically assimilates large amounts of unstructured or semi-structured data into meaningful and manageable descriptive categories. One of the most common analysis

methods used to do this is thematic analysis. It is an analysis process where patterns of meaningful data are identified and organised by a process known as coding.
Thematic analysis is used extensively, both as an integral part of popular qualitative methodologies such as Interpretive Phenomenological Analysis and Grounded Theory, and as a method in its own right (Brooks et al., 2015). There exist multiple ways of doing thematic analysis including Matrix Analysis (Miles & Huberman, 1994), Framework Analysis (Ritchie and Spencer, 2002), and Template Analysis (King, 2012).

Template analysis is a form of thematic analysis that involves applying categories (or a template) based on prior research and theoretical perspectives. Template analysis was chosen because it allows *a priori* themes relevant to the theoretical perspective of interest to create a template that guides the interpretation of the data. In this case, cognitive dissonance theory (Festinger, 1957) is used to create an analysis template that may be applied to the interview data. The template in this case focusses on the nature of the participant's experiences of inner conflict and how they resolved it (or not). Dissonance theory delineates how self-related inner conflict is resolved in four different ways. Ultimately these modes of dissonance resolution will inform the basis of the themes to be identified in the interview data.

Basic steps for developing the template
The development of the analysis template was carried out using six procedural stages, as outlined by King, (2012).

1. Becoming familiar with the data. The interview data was thoroughly read through at least once. Preliminary notes were made in terms of significant elements of the interview.

2. Preliminary coding of the data. This is similar to most thematic approaches where initial codes or themes are created. This is where the researcher highlights any details of interest and organises this data into meaningful groups or categories. Template analysis does however allow the researcher to start with a priori themes identified in advance. In this case broad themes related to inner conflict and cognitive dissonance served as the starting point for the analysis.

3. Organising the emerging themes into meaningful clusters and define how they relate to each other. This stage includes highlighting hierarchical relationships between themes, such as narrower themes nesting within broader ones.

4. Defining an initial coding template. This initial template was developed by using a subset of the data as opposed to carrying out preliminary coding on all data before defining the thematic structure.

5. Applying the initial template to further data. The template is further refined at this stage with modifications. The modifications for the dissonance template consisted of identifying and applying subthemes from broad themes. This modification process is an iterative process and continues until all data of relevance is coded.

6. Finalising the template and apply it to the full data set. Although the template can always be further refined, for pragmatic reasons the researcher decides when the template meets the requirements of the project at hand. For this study the dissonance template is considered to be complete when there are no relevant data left uncoded.

4.6 Developing the analysis template

This section describes in full detail the steps by which the template was developed. The analysis template was developed to achieve the core objective of obtaining a detailed and structured account of participant's individual experiences of cognitive dissonance. This was achieved by ensuring that the thematic codes identified the three fundamental elements of dissonance theory. Firstly, the source of the dissonance conflict had to be identified. Secondly, codes had to be developed that described commonalities in the overall subjective experience of dissonance. Thirdly, it was important to explore how participants resolved or reduced this conflict. The themes and subthemes that were identified in the template are described in detail in the sections below.

The development of the analysis template began with creating a preliminary or initial template that was comprised of core aspects taken from cognitive dissonance theory (see Table 4.5). This preliminary template was applied to a subset of the data so that sub-themes could be identified. This process went through eight iterations of applying and refining the template using a subset of data (ten participant transcripts, taken from both groups). This process resulted in an advanced analysis template that consisted of all relevant sub-themes, which were hierarchically arranged in order of detail (see Table 4.6). The advanced template was deemed sufficiently ready to be applied to the total data set when there were no more new sub-themes to be identified. The template was then applied to the entire data set (King, 2012). What follows is a detailed description of how the analysis template was developed in terms of the sub-themes that emerged

from the data. A summary report of the total findings will then be presented as the template was applied to the entire data set.

Table 4.4: Initial analysis template.

Theme number	Theme name	Sub-themes
Theme 1	Source of Dissonance	
Theme 2	Intensity and Duration of the Dissonance	
Theme 3	Energy Levels	
Theme 4	Dissonance Reduction	1. Change dissonant behaviour or cognition 2. Add new cognitive elements 3. Reduce the importance pf the dissonant elements 4. Ignore or deny the dissonant information

Table 4.5: Advanced analysis template.

Broad Themes	Sub-themes (Level 1)	Sub-themes (Level 2)	Sub-themes (Level 3)
Theme 1: Conflict	Dissonance conflict	• Feeling specified • Feeling not specified	
	Non-dissonance conflict		
Theme 2: Dissonance experience	Duration	• Enduring • Short-lived • Not specified	
	Energy Levels	• Physical	- Energising - Draining - Not specified
		• Psychological	- Energising - Draining - Not specified
	Impact	• Significant • Not significant • Not specified	
	Intensity	• Major • Minor • Not specified	

	Rumination	• Depressive rumination • Ruminative Dissonance	
Theme 3: Dissonance Reduction	Reduction modes	• Change beh. or cog. • Add new cog. • Reduce the importance • Ignore or deny • Unsure/miscellaneous	- Specific example - Resolution style
	Reduction success	• Successful (long term) • Successful (Short term)	
	Unresolved dissonance	• Unsuccessful attempt • No attempt made	

4.6.1 Theme 1: Sources of conflict

Participants were asked to describe any personal experiences of inner conflict, similar to the type of conflict described in the Dissonance Questionnaire. The term 'inner conflict' was used during interviews to avoid using overly technical terminology with participants. The term 'inner conflict' is however a broad term that may include different types of conflict including both dissonance and non-dissonance conflicts. Aronson's (1969) revision of cognitive dissonance theory that asserts that dissonance is more likely to be experienced when one's self-concept is affected by the dissonant thoughts or behaviour. Instances of self-related inner conflict were coded as *dissonance conflict*.

4.6.2 Theme 2: The Experience of Dissonance

In order to obtain a detailed account of each participant's experience of dissonance conflict, participants were asked to elaborate on their conflict experiences according to the broad themes of *Intensity*, *Impact* and *Energy Levels*. In order to simplify the template, these three themes were combined in to one parent theme: Dissonance Experience. As the advanced template was being created, two more related subthemes emerged from the data: *Duration*, and *Rumination*. The five subthemes are outlined here.

Duration (Theme 2: Subtheme Level 1)

There was a distinction between dissonance experiences that emerged soon in the development of the analysis template in terms of how long the dissonance experience lasted. Some experiences were long-lasting and persistent, and some were short-term and ephemeral.

Short-lived (Theme 2: Subtheme level 2)

Dissonance experiences that were fleeting and did not last were coded as 'Short-lived'. This could refer to experiences that were perhaps less intense and more trivial.

Enduring (Theme 2: Subtheme level 2)

Participant dissonance experiences were coded as 'Enduring' if the dissonance experience was experienced over an extended period of time. This could refer to a single experience of dissonance lasting for hours (or even days). Or, it could refer to a recurring dissonance experience such as one that might present itself again and again, regularly over an extended period of months or even years.

Energy Levels (Theme 2: Subtheme level 1)

The initial analysis template included a theme to explore whether or not there was any perceived effect on participants' energy levels associated with their experiences with dissonance. Participants were asked to describe if and how their dissonance experiences affected their energy levels. They responded with references to both physical and psychological (or perhaps more specifically cognitive) energy. It would have been reasonable to assume that any reference to energy levels would most probably be in terms of low energy, especially among participants with depression. There were indeed examples of lowered physical energy reported in the interviews. There were however also increases in energy, both physical and psychological. Therefore, *energy levels* (Subtheme level 1) was divided into *physical* and *psychological* energy (Subtheme level 2). In turn, references to both *physical* and *psychological* energy were coded in terms of *energising* or *draining* (Subtheme level 3).

Impact (Theme 2: Subtheme level 1)

Although participants were not explicitly asked to describe the impact on their lives that their conflict had, the impact dissonance conflict had on them emerged as an identifiable theme from the data. Impact of dissonance was coded in terms of the significance the conflict had on the participant's life in general. If the dissonance had a substantial effect on a participant's life, it was coded as *significant* (Subtheme level 2). For many participants the significance of the impact was

due to the way they attempted to cope with their dissonance. Many participants described dissonance experiences that had little or no effect on the person or their life, and were coded as *non-significant* (Subtheme level 2).

Intensity (Theme 2, Subtheme level 1)

Dissonance intensity refers to the perceived strength of the feeling that resulted from the dissonance. A distinction emerged from the data between how intense the participant found the experience of inner conflict/cognitive dissonance. The distinction was made in terms of *major* and *minor* intensity (Subtheme level 2). The distinction was either explicitly stated by the participant or interpreted in the analysis based on the language used by participants. Minor intensity was coded for example for descriptions such as 'no big deal'. Whereas major intensity was coded for, 'I was devastated'. The intensity of the dissonance experience was considered minor if it did not elicit a particularly strong emotional reaction. Sometimes the participant would explicitly state that they experienced a mild emotional reaction to the conflict. The intensity of the dissonance experience was considered major if it created a strong emotional reaction in the participant. Some participants explicitly described the nature of the dissonance intensity.

Rumination (Theme 2: Subtheme level 1)

Many participants described periods where their negative thoughts persisted. These periods ranged from long periods of debilitating thought cycles that inhibited their everyday function, to periods where they dwelled on a negative thought while they went about their lives. This theme was developed into two subthemes: *Depressive Rumination* and *Ruminative Dissonance*.

Depressive Rumination (Theme 2: Subtheme level 2)

Depressive rumination is a symptom that is common in depressive disorders. As described in Chapter 2, it refers to a compulsive cycle of unproductive negative thoughts. People with depression who experience depressive rumination can dwell on negative thoughts for extended periods of time often to the detriment of their wellbeing. Some participants (from the depression group) described their experiences of depressive rumination as part of their experiences of depression.

Ruminative Dissonance (Theme 2: Subtheme level 2)

What appeared more common was a different form of rumination, one that was not quite the typical rumination where someone is stuck in a 'black hole' of dark thoughts. Some participants

described extended periods of dissonance where they constantly dwelling on certain negative thoughts while able still to go about their daily lives. These experiences were coded as ruminative dissonance.

4.6.3 Theme 3: Dissonance Reduction

In order to get as complete an account as possible of their experiences of cognitive dissonance, it was necessary to explore how (and if) participants were able to reduce their dissonance. To avoid using technical jargon and unfamiliar terminology, participants were asked to describe how they made themselves feel better or how the negative feelings caused by the inner conflict went away.

Modes of Dissonance Reduction (Theme 3: Subtheme level 1)

The initial analysis template included the broad theme 'Dissonance Reduction' which was divided into four subthemes (Subtheme level 2). These subthemes consisted of the four main modes of dissonance reduction as described by dissonance theory:

1. Change the conflicting behaviour or cognition
2. Add an additional cognition to justify the conflicting behaviour or cognition
3. Reduce the importance of the conflicting cognition or behaviour
4. Ignore or deny the dissonance

The four modes of dissonance reduction were included in the initial analysis template. As the initial template was applied to the data, the first revision to emerge from the data was a fifth option for dissonance modes of reduction. The fifth option was a code for any reduction attempts that were not apparently described by the four established reduction modes. This category was entitled *Unsure/Miscellaneous*.

The Subtheme level 2 themes were further subdivided when it emerged from the data that each attempt to reduce dissonance could be described in terms of whether participants referred to a specific attempt to reduce dissonance or alternatively a general approach to resolution. These subthemes (Sublevel 3) were termed *Specific Example*, and *General Style*.

Dissonance Reduction Success (Theme 3: Subtheme level 1)

Whether or not a dissonance reduction attempt was successful emerged as a Level 1 subtheme in the Dissonance Reduction theme. Dissonance reduction success was considered in terms of three subthemes (Level 2): Successful (long-term), Successful (short-term), and Unsuccessful. Successful (long-term) dissonance resolution here describes situations where participants successfully reduced or resolved their dissonance without the likelihood of it recurring

Successful (short-term) dissonance reduction describes situations where participants reduce the dissonance enough to allow the negative emotional experience to pass. The dissonance and the negative emotional experience are not however fully resolved. Many instances of dissonance successfully resolved in the short term revealed a tendency to return.
Unsuccessful attempts at dissonance reduction were also accounted for in the coding. These were attempts to engage in a mode of dissonance reduction only to have it fail.

Unresolved Dissonance (Theme 3: Subtheme level 1)
Ongoing dissonance that remained unresolved emerged as a subtheme (level 1) in the Dissonance Reduction theme. This was further subdivided into two further subthemes (level 2) depending on whether the participant had made an unsuccessful attempt at reducing the dissonance, or whether no attempt had been made at all. Unresolved dissonance was also described by participants in the absence of any attempt to reduce it.

5: Analysis and Findings

This chapter presents the data analysis and the findings of the study. The chapter opens with an overview of the quantitative findings and conclusions (5.1). Subsequently, the qualitative findings, the main part of this chapter, starts with a presentation of the advanced analysis template (5.2.1). Using the initial template presented in the methods section (table 4.4) as the starting point, a sample of the interviews was analysed. This precipitated a refinement of the initial template leading to the advanced analysis template, which was then applied to the entire dataset. This section is followed by a description of the prevalence of dissonance as it emerged in the interviews (5.2.2). This relates to the overall research question and seeks to address whether the interviews yielded accounts of dissonance and whether dissonance as a theme occurred in the lives of the participants. The next section provides a detailed account of the dissonance related themes that emerged in the interviews (5.2.3), using the advanced analysis template. Following this, a selection of the interviews is presented to illustrate integrated accounts of notable dissonance experiences (5.2.4). These detailed accounts of dissonance also make use of the advanced analysis template and the themes and sub-themes identified, but are presented with an emphasis on the relationship between the elements of dissonance. The analysis is completed with a comparison of the two groups of participants (5.2.5) in order to outline differences and similarities between the group with a diagnosis of depression (DD) and those without (ND). Overall conclusions (5.3) complete this chapter.

5.1 Quantitative analysis and findings

This section includes the demographics and overall profile of the participants. Its main objective was to identify whether the two groups that were interviewed were comparable in their overall features and showed statistically significant differences in their response to the Depression scale used.

5.1.1 Demographics and description of the two participant groups

The first group consisted of a purposive sample of 15 participants with a diagnosis of depression who were recruited through clinical gatekeepers (consultant psychiatrists with the Health Service Executive). Group 1 (DD) consisted of 8 female and 7 male participants. Group 2 (ND) consisted of 11 female and 4 male participants. The average age of participants in Group 1 (DD) was 49.7 years. The average age for Group 2 (ND) was 37.8 years, yielding an age difference of 11.9 years between the two groups. Education level was compared using the National Framework of Qualifications (NFQ) which provides an index of levels of education in Ireland and rages from one

to ten. The average NFQ score for Group 1 (DD) was 6.2 whereas the average for Group 2 (ND) was 5.7. The demographic information for both participant groups is presented below in table 5.1.

Table 5.1: Summary of demographic information for both participant groups

Group	Gender	Average Age	Average Education (NFQ)
1. Depressed	7 Male 8 Female	49.7	6.2
2. Non-depressed	4 Male 11 Female	37.8	5.7

5.1.2 Comparison of depression questionnaire (CESD-10)

The CESD-10) depression scale was used to obtain an indication of depressive symptoms from both groups. The CESD-10 is a 10-item Likert scale questionnaire assessing depressive symptoms in the past week. It includes three items on depressed affect, five items on somatic symptoms, and two items on positive affect. Total scores can range from 0 to 30. Higher scores suggest greater severity of symptoms. Cut-off scores from 8 to 10 have been suggested to adequately function for screening in a non-clinical sample (Anderson et al., 1994).

A statistical analysis was performed to compare the scores from both participant groups scores. Due to the small sample size, the assumption of normal distribution was violated. A non-parametric analysis using a Mann-Whitney U test confirmed that there was a significant difference between Group 1 (DD) (M = 11.07, SD = 5.50) and Group 2 (ND) (M = 4.6, SD = 2.26), (U=29, p=.000). From this data, it can be concluded that the participants in Group 1 (DD) scored statistically significantly higher than Group 2 (ND).

Table 5.2: Descriptive statistics of CESD-10 for Group 1 and Group 2.

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Depression	1.00	15	11.0667	5.49632	1.41914
Score	2.00	15	4.6000	2.26148	.58391

Table 5.3: Mann-Whitney U test results for CESD-10 for Group 1 and Group 2.

Ranks

	Group	N	Mean Rank	Sum of Ranks
Score	1.00	15	21.07	316.00
	2.00	15	9.93	149.00
	Total	30		

Test Statistics[a]

	Score
Mann-Whitney U	29.000
Wilcoxon W	149.000
Z	-3.493
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)]	.000[b]

a. Grouping Variable: Group

b. Not corrected for ties.

The implication of this finding suggests that the distinction between the two groups (with regard to depression) is valid. This is essential to the study's methodology in terms of group selection. It was important to be certain that there was an appreciable contrast between the participants, i.e. that they could be differentiated in terms of their recent experience of depression. As the CESD-10 is a reliable indicator of depressive symptoms measured (Andresen et al., 1994; Eaton et al., 2004), this assessment tool was chosen to help establish whether or not there was a difference between the groups' recent experience of depression symptoms. The results show that this was indeed the case. This is explored further in relation to the findings of the comparison between the two groups of the DiEL questionnaire in the discussion chapter (Section 6.1.1).

5.1.3 Comparison of the DiEL questionnaire

The Dissonance Scenario Questionnaire consisted of ten scenarios, each with four components: a principle, a statement of personal responsibility, a memory prompt, and a choice of emotional response. Each scenario described a typical example of every day cognitive dissonance (e.g. guilt over wasting water). The emotional response was considered only if the first three components were satisfied, i.e., answered in the affirmative. This was to ensure that dissonance had been sufficiently induced) The emotional response was graded from 0 (Very Highly Unpleasant) to 6 (Very Highly Pleasant). A low score indicates an unpleasant response to the dissonance created by the scenarios.

A non-parametric statistical analysis was performed to test for any significant difference between the dissonance scenario scores of both groups. A Mann-Whitney U test confirmed that there was no significant difference between Group 1 (DD) (M = 15.07, SD = 5.76) and Group 2 (ND) 2 (M = 16.4, SD = 4.1), (U=92.5, p=.412). From this data, it can be concluded that the participants in Group 1 (DD) did not score statistically significantly higher than Group 2 (ND) in the Dissonance Scenario Questionnaire.

Table 5.4: Descriptive statistics of Dissonance Scenario Questionnaire for Group 1

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Dissonance Score	1.00	15	15.0667	5.76277	1.48794
	2.00	15	16.4000	4.10226	1.05920

Table 5.5: Mann-Whitney U test results for Dissonance Scenario Questionnaire for Group 1 and Group 2.

Ranks

	Group	N	Mean Rank	Sum of Ranks
Dissonance Score	1.00	15	14.17	212.50
	2.00	15	16.83	252.50
	Total	30		

Test Statistics[a]

	Dissonance Score
Mann-Whitney U	92.500
Wilcoxon W	212.500
Z	-.834
Asymp. Sig. (2-tailed)	.404
Exact Sig. [2*(1-tailed Sig.)]	.412[b]

a. Grouping Variable: Group

b. Not corrected for ties.

The DiEL questionnaire is designed to test for dissonance induction of everyday scenarios. The results of a comparison between the two groups suggest that there is no basic or generic difference between the groups' general sensitivity to dissonance. This is important, because based on this finding no generic trait-based difference in dissonance perception and experience could be identified. Therefore, differences in the experience of depression between the two groups would seem to have its root in the experiences itself, rather than a differential in the inherent preparedness for dissonance experiences. Therefore, this finding supports the mixed-

methods framework that was chosen to answer the research question. A qualitative aspect to the study allows an exploration into experiential aspects of participant dissonance.

The Dissonance in Everyday Life questionnaire (DiEL) (De Vries et al., 2015) is a novel dissonance measurement tool that is still undergoing development. The DiEL was used in the present study to generate a dissonance-discomfort score for each participant so that a comparison between the two groups could be made. It was not predicted whether or not there would be a difference between these scores. It would however have been reasonable to assume that there would be a greater discomfort score generated by the DD group, based on previous studies. Stalder and Anderson (2014), for example, found that individuals that scored higher in a depression scale (CES-D) showed a stronger dissonance-arousal effect than a lower depression participant group. Stalder and Anderson concluded that depressed participants may be more susceptible to dissonance induction than non-depressed individuals. The results of the DiEL comparison between the DD and ND participant groups in the present study are inconsistent with the findings of Stalder and Anderson's 2014 study. The findings of the DiEL comparison between the two groups suggest that there may be no difference in dissonance discomfort based on everyday dissonance-inducing scenarios. Based on the quantitative nature of this questionnaire, there is a limitation in what can be deduced about dissonance experiences. This strengthens the motivation to conduct a qualitative investigation into dissonance experiences and to explore aspects of dissonance processes that are not addressed in a quantitative approach to the phenomenon. This finding is discussed further in the Chapter Six, (Discussion) in relation to the qualitative findings.

5.1.4 Correlational analysis between depression and dissonance scores

A regression analysis is a statistical tool that is used to examine the relationship between two variables. It is a way of modelling how much of an effect one variable has on another (Bates and Watts, 1988). In order to perform a regression analysis, it is necessary to check first that correlational relationship exists between the variables of interest. A correlational analysis was performed to check whether there was a relationship between the depression score (CESD-10) and the dissonance discomfort score (DiEL). In other words, whether the dissonance discomfort score could be predicted by the depression score. As the data violated the assumption of normality, a non-parametric bivariate correlational analysis was conducted. A Kendall's tau b correlation coefficient revealed that there was a near zero correlation between the two variables (τ_b= -.042, p= .758).

Table 5.6: Correlational analysis of depression and dissonance scores

Correlations

			CESD_10	DDEL
Kendall's tau_b	CESD_10	Correlation Coefficient	1.000	-.042
		Sig. (2-tailed)	.	.758
		N	30	30
	DDEL	Correlation Coefficient	-.042	1.000
		Sig. (2-tailed)	.758	.
		N	30	30

5.1.5 Conclusion

The overall conclusion is that the two groups were significantly different in their depression scores, justifying the intended comparison. Interestingly there were no significant contrasts in the response to the dissonance in everyday life questions. This suggests that the experience of dissonance in general was equally relevant to both groups, with participants registering similar levels of estimated dissonance in response to day to day dissonance inducing events. . Cognitive theory (of depression) tells us that depression has a substantial impact on how inner conflict is processed. The fact that there was no significant difference found between the two groups' dissonance scenario questionnaire scores is therefore intriguing. If the impact of depression on experience of cognitive dissonance is not easily identified by the questionnaire, perhaps a deeper and more qualitative investigation is warranted. The qualitative phase of this study was designed to investigate any appreciable similarities or difference in how both groups experience cognitive dissonance. Any potential differences were to be identified and analysed in terms of source, experience, and reduction of cognitive dissonance. Whether there were noteworthy qualitative differences between the two groups will be discussed in section 5.2.5. One caveat resulting from the selection of participants is that in terms of demographics there were also some contrasts in terms of age and gender profile between the groups that limit the interpretation of this comparison.

5.2 Qualitative analysis and findings

5.2.1 Development of the advanced analysis template

The qualitative data was analysed using the themes and subthemes that were identified in the development of the advanced analysis template. In template analysis, the identification of subthemes to be used in the analysis of the qualitative data is in of itself part of the results of the study (King, 2012). It is therefore that this aspect of the study is discussed here in the qualitative findings rather than in the method section.

The analysis template that was developed in advance based on dissonance theory was applied to 30 interviews. The analysis focussed on thematic codes identifying the three fundamental elements of dissonance theory. Firstly, the source of the dissonance conflict was identified. Secondly, codes were developed that described commonalities in the overall subjective experience of dissonance. Thirdly, it was important to explore how participants resolved or reduced this conflict. As the analysis proceeded it became evident that the template did not pick up some essential contrasts. The themes and subthemes that were identified in the resulting template are described in detail in table 5.7.

Table 5.7: Advanced analysis template

Broad Themes	Sub-themes (Level 1)	Sub-themes (Level 2)	Sub-themes (Level 3)
Theme 1: Conflict	Self-related dissonance conflict	• Feeling specified • Feeling not specified	
Theme 2: Dissonance experience	Duration	• Enduring • Short-lived • Not specified	
	Energy Levels	• Physical	- Energising - Draining - Not specified
		• Psychological	- Energising - Draining - Not specified
	Impact	• Significant • Not significant • Not specified	
	Intensity	• Major • Minor • Not specified	
	Rumination	• Depressive rumination • Ruminative Dissonance	
Theme 3: Dissonance Reduction	Reduction modes	• Change beh. or cog. • Add new cog. • Reduce the importance • Ignore or deny • Unsure/miscellaneous	- Specific example - Resolution style
	Reduction success	• Successful (long term) • Successful (Short term) • Unsuccessful	
	Unresolved dissonance	• Unsuccessful attempt • No attempt made	

5.2.2 The Prevalence of Dissonance in the Interviews

Once the analysis of all interviews was started it was evident that each and every one of the participants, when prompted, was able to identify and recount experiences of dissonance in their lives and expand upon them. The details made it clear that most of the experiences of inner conflict presented by the participants qualified as cognitive dissonance, including all core aspects (inconsistency, discomfort, and attempts to reduce it, etc.) included in the analysis template. There were a total of 114 dissonance conflicts reported in all interviews; an average of 3.8 per interview. The interviews yielded an unexpected variety of dissonance experiences ranging from seemingly trivial conflicts to very serious issues. Most participants provided multiple examples of dissonance, including accounts of issues that had generated significant degrees of dissonance in their lives, such as trauma, alcoholism, drug and sexual abuse. In contrast with narratives of these intense and often prolonged dissonance experiences, more trivial accounts were also provided. As we will see in the final section of this chapter, this was one of the salient difference between the DD and ND groups.

While most participants discussed several dissonance experiences, a minority [how many] focussed on a single dissonance experience. These experiences tended to be crucial in the person's life. If only one dissonance experience was discussed, it allowed more time to focus on the detail of that experience during the interview. For instance participant DD12 described a single experience of dissonance that involved her losing her job. The participant described this experience in great detail in terms of how betrayed she felt.

There were two participants (one from each group, DD05 and ND11) whose references to dissonance were too terse to yield a rich and detailed description. DD05 gave a historical account of his depression and the life events affected by it. These events were however difficult to frame in terms of dissonance theory. The participant made little reference to dissonance elements, i.e. self-related conflict that generated the emotional responses that are typical of a dissonance experience. ND11 had difficulty recalling dissonance experiences. When prompted to elaborate on the dissonance examples from the Dissonance Questionnaire, she seemed reluctant and unable to offer any detail. These two participant interviews were the only ones not to yield detailed descriptions of dissonance experiences.

There was an a priori assumption that the experiences of dissonance would be spoken about in the past tense. After all, the nature of the main question that was put to the participants was based on their previous experiences of dissonance conflicts. Nonetheless, a number of

participants were found to have dissonance experiences that were ongoing. For some, their dissonance conflict was unresolved but didn't bother them regularly. For others, they were found to be currently experiencing unresolved and ongoing dissonance which they found distressing. There was even some dissonance that was arguably present without the participant being aware of it. This might occur when participant doesn't quite realise that they are making excuses for something that might make them feel bad were they to admit it to themselves (as is the case in DD04). This, along with several notable observations will be described in detail in the sections below.

5.2.3 Findings from the template analysis

The template analysis provided valuable insight in how the different aspects of the dissonance experience was narrated by the participants. This section provides an overview of the analysis highlighting each theme in the template (see table 5.7).

Theme 1: Sources of dissonance conflict

All examples of inner conflict were identified and coded. Participants were asked to describe any personal experiences of inner conflict, similar to the type of conflict described in the Dissonance Questionnaire. The term 'inner conflict' was used during interviews to avoid using overly technical terminology with participants. The term 'inner conflict' is, however, a broad term that may include different types of conflict. An emerging distinction during the coding and analysis was between self-related dissonance and non-self-related dissonance conflicts. This reflects debate around the role of the 'self' in dissonance theory. Some theorists (Steele and Bem) suggested that dissonance has less to do with inconsistencies than with efforts to protect the integrity of one's self-image. As a compromise, Aronson's (1969) revision of cognitive dissonance theory asserts that dissonance is most strongly experienced when one's self-concept is affected by the dissonant thoughts or behaviour, but that dissonance can also exist without explicit involvement of the self. Far from settling this debate, participants gave both self-related and non-self-related accounts of inner conflict.

Sources of Dissonance conflict (Level 1)

Dissonance conflict was identified in the data where a general inner conflict was understood to have a self-related aspect to it. For example, participant 1003 was arrested and convicted for driving whilst over the legal alcohol limit:

"And on the five minute drive home I got stopped by the guards. And I got done for drunk-driving. And me not a drinker, normally. I was so ashamed over that. So I had to go to court, and I was put off the road for three years."

Here, the conflict can be framed clearly and explicitly in terms of dissonance theory. The participant describes an experience where she has acted contrary to her self-image. This has resulted in a negative emotional experience, in this case, shame. She does not consider herself a drinker but she has been caught and punished because of her behaviour and this has led her to feel embarrassed.

Another example of dissonance conflict can be seen in an experience described by ND15. She describes an experience when she was unable to help her friend after they had gotten into difficulty while swimming in the sea:

"There was one incident where I was swimming with a friend in Portugal and she swam out too far and I was going out to join her. I thought she was right there but suddenly she was way over there. I suddenly realised she was in trouble. So I went over to her. We actually went down a couple of times with the force of the waves. And she said 'Swim back and get help!' [Pause] And I did. When I got back to the beach…we looked out and we couldn't see her… She was actually fine…I said to myself that I will never leave someone like that again."

Non-self-related dissonance conflict (Level 1)

Non-self-related dissonance conflict refers to an experience of inner conflict caused by an external stressor without it being immediately affecting their self-concept. For example, participant DD03 (depressed group) described the stress experienced by not being able to afford the mortgage on her family's business due to a downturn in business:

"I was worrying about the mortgage on the house. We have a B&B and we had a very big mortgage on it. And when the recession came, the number of guests decreased so I was worried that we weren't going to be able to pay the mortgage and I was very depressed over that." (DD03, 01.44)

The data has shown that many of the instances of inner conflict might not exclusively categorised as one or the other (either self-related or non-self-related dissonance). For example, participant 1004 (depressed group) describes her marriage as being very unhappy. The participant however goes on to describe the regret and guilt that she experienced because she felt that she could have worked harder to make her marriage work:

"Then I had depression in my first marriage and depression, I'd an unhappy marriage... Yes I would have a guilty conscience if I didn't do what I thought was the right thing. Even today, even though both my husbands are dead, I do feel guilty that I couldn't work harder at my first marriage… Sometimes I think back and I think that I could have tried harder." (DD04).

However, the regret the participant feels for not working harder indicates cognitive dissonance due to the discrepancy between how she sees herself (or would like to see herself) and how she acted. In several cases, there is a suggestion that an apparently non self-related narrative may include implicit self-related dissonance. In a way, this is a significant complication in the analysis and also our understanding of dissonance. There may be a conscious and a sub-conscious aspect of how dissonance is experienced.

Feeling specified/not specified (Level 2)

The self-relatedness of the conflict was a way to identify dissonance conflict. In the example above it can be seen that the participant who was caught for driving under the influence of alcohol was acting against her principles. Another important element in identifying dissonance conflict was in the emotional reaction that it evoked in the participants. Many participants reported emotions that are typically associated with cognitive dissonance, such as guilt, shame, regret, and embarrassment. These were mentioned in many participant's descriptions of their experiences of dissonance. For example, participant DD07 described his negative emotional reaction to feeling bad about how his drinking and drug taking were affecting his family:

"I started feeling really guilty about my other family members and the effect that was having on them"

When participants articulated their experiences of dissonance, they usually described the experience in terms of how it made them feel. If the emotional description was not forthcoming or if the participant was rather vague, I (the interviewer?) asked them if they could put a name on the feeling that they experienced as a result of the conflict. Specifically articulated emotions related to dissonance conflict were coded as 'feeling specified', a level 2 subtheme.

Not all dissonance conflicts were articulated in terms of a negative emotional reaction. Certain participants described their dissonance experiences without specifically labelling the associated emotion. For example participant 1006 describes an experience when she was diagnosed with Bi-polar disorder by a consultant psychiatrist:

"I was attending here and I met up with one of the doctors and he said 'No, you have Bipolar (Disorder)', and I nearly had a heart attack! 'I'm not Bipolar, don't you tell me that I'm bipolar, there's no way!'".

In the example above, dissonance can be observed when the psychiatrist presents the participant with new (and unwelcome) information in the form of his diagnosis. This information is apparently inconsistent with the participant's view of herself and the result is a strong negative emotional reaction. The participant was distressed to receive this news. Here, the dissonance can be clearly identified even though the negative emotional reaction is not labelled by the participant. Negative emotional labels were indeed helpful in identifying the dissonance but were not always necessary.

Theme 2: The Experience of Dissonance

Participants elaborated on their conflict experiences according to the broad themes of Intensity, Impact and Energy Levels. In order to simplify the template, these three themes were combined in to one parent theme: Dissonance Experience. As the advanced template was being created, two more related subthemes emerged from the data: Duration, and Rumination. The five subthemes are described here in detail.

Duration (Theme 2 Subtheme Level 1)

There was a distinction between dissonance experiences that emerged soon in the development of the analysis template in terms of how long the dissonance experience lasted. Some experiences were long-lasting and persistent, and some were short-term and ephemeral.

Short-lived (Theme 2 Subtheme level 2)

Dissonance experiences that were fleeting and did not last were coded as 'Short-lived'. This could refer to experiences that were perhaps less intense and more trivial. For example, participant ND02 described the discomfort caused by dissonance of feeling bad for not giving to charity:

> *"…certainly closer to the fleeting, water off a duck's back. It certainly doesn't…when I piece it together, it probably affects me from anywhere between one to five minutes and then it's gone."*

This is dissonance that is reduced sufficiently enough so as to cease to be bothersome. It is worth noting that the dissonance may not be resolved permanently, only sufficiently reduced so the person can move past it.

Enduring (Theme 2, Subtheme level 2)

Temporal aspects of participant dissonance experiences were coded as 'Enduring' if the dissonance experience was experienced over an extended period of time. This could refer to a single experience of dissonance lasting for hours (or even days):

> *"My dad would be a major one (source of inner conflict). I can get angry about him for about five or six hours because the difficult part with my dad was that he would never own up to what her was doing". (DD10)*

Or it could refer to a recurring dissonance experience such as one that might present itself again and again, regularly over an extended period: "I thought about it every day for six months." (ND15)

Energy Levels (Theme 2, Subtheme level 1)

The initial analysis template included a theme to explore whether or not there was any perceived effect on participants' energy levels associated with their experiences with dissonance. Participants were asked to describe if and how their dissonance experiences affected their energy levels. They responded with reference to both physical and psychological (or perhaps more specifically cognitive) energy. It had been assumed that any reference to energy levels would most probably be in terms of low energy, especially among participants with depression. There were indeed examples of lowered physical energy reported in the interviews. There were also increases in energy, in terms of motivations to change behaviour. These contrasting impacts were labelled 'Draining' and 'Energising' (Theme2, subtheme level 2), respectively.

Draining (Theme 2, Subtheme level 3)

Some participants reported having periods of low energy associated with their descriptions dissonance. This was particularly apparent in participants with depression. Participant DD01 (Male, thirty-five years old, diagnosis of depression) for example, described having very low energy during a depressive episode:

> *"But they knew, they knew there was something wrong with me because I literally didn't move from the bed. I wasn't able. I couldn't face society, I couldn't face going outside. I just wanted to be in the dark… To say hello to someone was an effort."*

Low energy, lethargy, and fatigue are however well known symptoms commonly experienced in depression. What was perhaps more unexpected was that participants also recounted experiences of feeling physically motivated by experiences of inner conflict. Participant ND06

(female, forty-four years old, non-depressed) describes a general reaction to her experiences of inner conflict:

> *"Well, I'm a walker. If something really gets in my head I just put on t a pair of runners and head out the door".*

In this case (and many like it in the data) it can be seen that there is an increase in physical activity associated with the conflict. This will tie in below in terms of how people attempt to manage and reduce dissonance.

Energising (Theme 2, Subtheme level 3)

This was typically manifested as an increase in mental activity. For example, participant ND01 (Male, Twenty-four years, Non-depressed) describes feeling motivated to try to address the issue of homelessness after he had experienced a number of dissonance conflicts while abroad:

> *"I'd like to come back here and have a conversation with these people about what small thing could be done that would have the greatest impact for them and yeah that would make me feel like, 'at least this holiday was an opportunity for me to recognise that there was a problem and maybe I'll do something about it in the future'"*

There were some references to a draining in mental energy, particularly from the depressed group. These were mostly undeveloped and not discussed in a lot of detail. For example, participant DD10 (Female, forty-nine years old, diagnosed Bipolar) describes a typical period of depression as being associated with very low psychological energy.

> *"Sometimes when the depression gets very, very severe I don't seem to be thinking about anything. I just seem to be black. Everything just shuts down and I lie on the bed and I'm just shut down".*

This particular participant's experience of depression has a considerable dissonance element to it and is described in a section below (see 5.3 Case Studies). Most often physical and psychological energy were mentioned in tandem.

Impact (Theme 2, Subtheme level 1)

Although participants were not explicitly asked to describe the impact on their lives that their conflict had, an identifiable theme emerged from the data. Impact of dissonance was coded in terms of the significance the conflict had on the participant's life in general. If the dissonance had a substantial effect on a participant's life, it was coded as 'Significant' (Subtheme level 2). For many participants the significance of the impact was due to the way they attempted to cope with

their dissonance. For example, participant DD01 describes how he attempted to deal with the guilt of not doing more to prevent his friends from committing suicide. He described in the interview how he drank heavily and took drugs in an attempt to cope with the guilt:

> *"I was about two years in a bad way of alcohol and drug abuse…And from there it got worse and I didn't care. My mother and father were ringing me terrified when I was gone for days in houses drinking. My father was walking into pubs to see if I was in there, not knowing if I was dead or alive."*

Many participants described dissonance experiences that had little or no effect on the person or their life, and were coded as 'Insignificant' (Subtheme level 2). An example of this can be seen in participant number DD07 who described her experience of regret for self-medicating herself with alcohol in an attempt to cope with a stressful period in her life:

> *"I can't say that I really regret it, no. It's more shame or embarrassment thinking about it and how I was in that moment. But at the same time, I don't regret it. Maybe only because nothing bad came from it. I was safe. It didn't affect anybody else. My children were fine. And maybe, if something negative had happened as a result, I would seriously regret it".*

Intensity (Theme 2, Subtheme Level 1)

Dissonance intensity refers to the perceived strength of the feeling that resulted from the dissonance. A distinction emerged from the data between how intense the participant found the experience of inner conflict/cognitive dissonance. The distinction was made in terms of major and minor intensity. The distinction was either explicitly stated by the participant or interpreted in the analysis based on the language used by participants. Minor intensity was coded for example for descriptions such as 'no big deal'. Whereas major intensity was coded for, 'I was devastated'. The distinction is explained in more detail here.

Minor intensity (Theme 2, Subtheme Level 2)

The intensity of the dissonance experience was considered minor if they did not elicit a particularly strong emotional reaction. Sometimes the participant would explicitly state that they experienced a mild emotional reaction to the conflict. For example, participant ND01 describes the dissonance he experienced at witnessing beggars on the street after he himself had enjoyed a large meal in a restaurant that he could not finish entirely. The participant attempted to reduce this dissonance by offering a beggar some food.

"I think it varies depending on a few factors, like immediately after you'd hand some food over it's very low, when we were just walking down the street it would be mild to moderate." (ND01)

Here the participant explicitly describes the intensity of his emotional reaction in terms of low, mild, and moderate. Where the intensity of dissonance was not explicitly stated, it was inferred by the language used by the participant. For example, participant ND02 (non-depressed) describes his experience of cognitive dissonance when passing someone begging on the street.

"But I would walk by beggars in the street and I wouldn't give them money. The conflict there and how I resolve it in my head is that I say I'm going to give to a charity that I know where the money is going, what it's being used on. But I never do! When it comes to actually giving the money to the charity I justify it then in a different way where I kind of say that I don't have enough money at the time, and this is just an ongoing thing that's gone on for years and years, when I think about something completely different "O, I'll just, … I'm going to give to that charity someday", but I never actually give to that charity. And I can always justify it in terms of just not having enough money at that time…"

Without explicitly stating the level of intensity, it is apparent that the experience and resulting feeling is not particularly intense. The language used, such as "O, I'll just", and "I'm going to give to that charity someday" does not indicate a particularly intense experience.

Major intensity (Theme 2, Subtheme Level 2)

The intensity of the dissonance experience was considered major if it created a strong emotional reaction in the participant. Some participants explicitly described the nature of the dissonance intensity. For example, participant ND07 recalled a personal dissonance experience where she unintentionally mistreated a work colleague:

"…crap, absolute crap. I feel really crap and I think that I wasn't nice or that I wasn't kind or I wasn't appropriate. How would I feel if somebody spoke to me like that? I'd hate it!"

Here the participant explicitly articulates the intensity of the dissonance caused. If the intensity was not explicitly stated it could be inferred once again by the language used by the participant. Participants sometimes referred indirectly to the level of intensity. Participant number 1006, for example, was diagnosed with bi-polar disorder. She explained that this was extremely distressing for her it contradicted the very high standard she had set for herself all of her life:

"*...and he said 'no, you have bipolar'. And I nearly had a heart attack! 'I'm not bipolar, don't you tell me that I'm bi-polar, I want to go back to my own doctor'".*

Here, while the participant does not label the intensity of the dissonance directly as intense, it is quite clear that it is an intense experience for her.

Rumination (Theme 2, Subtheme Level 1)

Many participants described periods where their negative thoughts persisted. These periods ranged from long periods of debilitating thought cycles that inhibited their everyday function, to periods where they dwelled on a negative thought while they went about their lives. This theme was developed into two subthemes: 'Depressive Rumination' and 'Ruminative Dissonance'.

Depressive Rumination (Theme 2, Subtheme level 2)

Depressive rumination is a symptom that is common in depressive disorders. As described in Chapter 2, it refers to a compulsive cycle of unproductive negative thoughts. People with depression who experience depressive rumination can dwell on negative thoughts for extended periods of time often to the detriment of their wellbeing. Some participants (from the depression group) described their experiences of depressive rumination as part of their experiences of depression. For example, participant DD05 (Male, fifty-five years, Bipolar) describes:

> *"And when I say depressed, when I came home from Dublin, my depression would be isolation, total isolation. I'd isolate myself in the room and I wouldn't come out. And I'd stay in the bed with this inner conflict all the time, inner conflict, mind, and inner conflict all the time. Going over it all the time".*

Here it can be seen that the constant dwelling on his thoughts keeps him isolated for long periods of time.

What appeared more common was a different form of rumination, one that was not quite the typical rumination where someone is stuck in a 'black hole' of dark thoughts. Some participants described extended periods of dissonance where they constantly dwelling on certain negative thoughts while able still to go about their daily lives. These experiences were coded as ruminative dissonance. An example of ruminative dissonance can be seen in Participant DD08 (Female, thirty-seven years, depression):

> *"…often I think what will happen is past memories or situations seem to resurface again and I'd either kind of relive it or just rethink it a lot of the time so. I'm almost there again or thinking what I should have done or should not have done or…should've-would've-could've, that sort of situation. So then throughout the day it just keeps coming back. It's like a stuck record. It's hard to get away from my thoughts".*

In this example, the participant describes a general dissonance experience that she says is typical for her. She describes the resurfacing of feelings of regret for various things that seems to intrude upon her. It has a ruminative quality to it in that there is an unproductive and continuous thought cycle. It occurs throughout the day but seems to be qualitatively different from the debilitating nature of depressive rumination.

Theme 3: Dissonance Reduction

In order to get as complete an account as possible of their experiences of cognitive dissonance, it was necessary to explore how (and if) participants were able to reduce their dissonance. To avoid using technical jargon and unfamiliar terminology, participants were asked to describe how they made themselves feel better or how the negative feelings caused by the inner conflict went away.

Modes of Dissonance Reduction (Subtheme Level 1)

The initial analysis template included the broad theme 'Dissonance Reduction' which consisted of the four main modes of dissonance reduction, as per cognitive dissonance theory. These were identified a priori as subthemes:

1. Change the conflicting behaviour or cognition
2. Add an additional cognition to justify the conflicting behaviour or cognition
3. Reduce the importance of the conflicting cognition or behaviour
4. Ignore or deny the dissonance

The first dissonance reduction mode could be seen in instances where the participant actually addressed the conflicting dissonant behaviour or cognition. The vast majority of these attempts addressed the conflicting behaviour rather than the conflicting cognition. For example (ND06) described an incident where some parents had been asked to volunteer for some secondary school student activity. This participant felt terribly guilty that the activity was cancelled because no parent would volunteer:

> *"well the initial thing was to tell him (her son) to go up to the teacher tomorrow and tell him that I should be able to do it".*

In this case, by addressing and changing the conflicting behaviour (not volunteering), the participant would be able to relieve the guilt caused by the dissonance in this situation. Other

examples included apologising to someone to whom a participant (ND07) was rude, or to give up drinking after being caught driving under the influence of alcohol (DD03).

The second dissonance reduction mode (adding new cognitions) involves justifying one's conflicting thoughts or behaviour by using excuses or focussing on mitigating circumstances. This was by far the most popular for both groups. For example, participant ND15 described how she manages the guilt of having left a friend of hers when they both got into difficulty while swimming in the sea:

> *"It's your natural reaction in that situation, to save yourself".*
>
> *" I feel like I've learned something from that experience. I will never leave someone like that again"*

Both of these thoughts help to negate the guilt that the participant felt about having left her friend in difficulty.

The third mode of dissonance reduction (reducing the importance of the behaviour or cognition) was the least utilised way of reducing dissonance in both participant groups. This approach typically manifests itself when a person tells themselves that a dissonant thought or behaviour is 'no big deal'. It can be observed in the way in which participant DD11 describes how he dealt with regret he experienced as a result of moving home to Ireland from Canada and possibly having made the wrong decision in doing so:

> *"But mostly I just lived with it… At the time it was just like 'get on with it, it's not a real problem'. You have people that are dealing with serious illnesses, it's not a real problem, and it's just you feeling sorry for yourself".*

Here the participant downplays the seriousness of his regret at having possibly made the wrong decision in leaving a better life to return home to Ireland. He makes a comparison to what he refers to as 'real suffering' and his own suffering appears less salient.

The fourth mode of dissonance reduction (ignoring or denying the dissonant behaviour or cognition) was widely used by both groups. This mode of dissonance reduction was seen when participants would essentially try not to think about the reasons for their dissonance. There were many different examples of this mode of dissonance reduction:

> *"I guess often I'd go for a run or play sport to try and get better" (ND02)*
>
> *"Instead of ending my day in rumination I started keeping a gratitude journal for small things so that you're forced to focus on positive aspects of life, instead of focussing on the negatives". (ND04)*

"I do a lot of physical work around the house, a lot of house work. My motivation is extremely low but I force myself every day. Because I have a daughter and everything. I cook and I clean and do laundry and all of that. When I'm doing these actions the thoughts seem to pass. The actions cause the thoughts to diminish in my mind". DD10)

The participant attempts to distract themselves from dissonance was in some case more negative and destructive. The DD group had examples of self-harm and substance abuse as attempts to avoid negative emotional experiences. One example described by participant DD01 shows engage in self-haring activities to distract himself from other painful emotions:

"Where I'd be going from that to when I'd cut myself. Or if I'm in a situation like that where I'm just angry I'll feel like just getting something, anything like a key and just cut my arm, just to distract myself. That what I always used, distraction. Just get the closest think possible and just niggle at my arm".

Presumably, the participant was motivated to shift his attention from what he is feeling at the time to anything else in a desperate attempt distract himself, even if it meant self-harming. Other DD participants describe attempts to engage in mindfulness activities in an effort to manage their depressive symptoms with limited results. Participant DD13, for example tries to combine mindfulness with exercise:

"What I've learned is that mindfulness is good. Exercise is crucial. Whatever you do, just do something. And try to get out of your head by going and doing something. But when you're feeling that way there is nothing that you can do with it" (DD13)

A fifth dissonance reduction code was used for any reduction attempts that were not apparently described by the four established reduction modes. This category was entitled 'Unsure/Miscellaneous'. An example from the data of an attempt to reduce cognitive dissonance is described by Participant Number 1010. This particular participant was describing the dissonance that she experiences while she frequently remembers a period of her life when she was very badly treated by several men in her life. When asked how she handles this *"horrible feeling of dread",* the participant begins by saying "*Well, it just tends to pass after a while".* This, in itself, is not described by established dissonance reduction modes. The participant continues however to describe keeping busy with physical activities around the house such as cooking, cleaning, and laundry. It is these activities that help the difficult emotions pass; "When I'm doing these actions the thoughts seem to pass. "The actions cause the thoughts to diminish in my mind." This subsequent explanation of how the participant sometimes distracts herself in order

to avoid the negative emotions caused by dissonance is more appropriately described by the fourth mode of dissonance reduction: 'Ignore or deny the dissonance'. Many of the examples that emerged from this category, it was found, could be more appropriately described after further probing. There were some however that could not be easily categorised even after further consideration. For example, participant number 2007 describes one way of reducing dissonance caused by being poorly treated by a co-worker:

> *"I might write a letter when I go home, or write something down and get it out of my head and onto a piece of paper"*

Although the participant is ultimately describing reduction mode number four (Ignore or deny the dissonance), how writing it down in a letter allows her to do this is not immediately obvious. The Level 2 subthemes were further subdivided when it emerged from the data that each attempt to reduce dissonance could be described in terms of whether they referred to a specific attempt to reduce dissonance or alternatively a general approach to resolution. These subthemes (Level 3) were termed 'Specific Example', and 'General Style'.

Dissonance Reduction Success (Theme 3, Subtheme level 1)

Whether or not a dissonance reduction attempt was successful emerged as a Level 1 subtheme in the Dissonance Reduction theme. Dissonance reduction success was considered in terms of three subthemes (Level 2): Successful (long-term), Successful (short-term), and Unsuccessful. Successful (long-term) dissonance resolution here describes situations where participants successfully reduced or resolved their dissonance without the likelihood of it recurring. An example of a successful (long-term) dissonance resolution can be seen in a description from participant number 1008 (DD group). In this experience the participant describes overcoming the guilt she felt from self-medicating with alcohol:

> *"I can't say that I really regret it, no. It's more shame or embarrassment thinking about it and how I was in that moment. But at the same time, I don't regret it. Maybe only because nothing bad came from it. I was safe. It didn't affect anybody else. My children were fine. And maybe, if something negative had happened as a result, I would seriously regret it"*

The participant describes her dissonance as being successfully resolved. The mode of dissonance reduction that she employs (mode number four: add new cognitions) helps her justify the behaviour in terms of the fact that there were no long term consequences of her actions that her children were safe.

Successful (short-term) dissonance reduction describes situations where participants reduce the dissonance enough to allow the negative emotional experience to pass. The dissonance and the negative emotional experience are not however fully resolved. Many instances of dissonance successfully resolved in the short term revealed a tendency to return. For example, participant ND02 describes an ongoing experience of guilt when he is approached about giving to charity. The participant reduces this dissonance by distracting himself and shifting his attention to something else:

> *"and then something else pops up and then it's gone. And I don't consider it any further until next time."*

In this case, the dissonance is reduced but only in the short term. The participant re-experiences the dissonance if and when a similar situation presents itself. In this particular case, the next time the participant was asked to give to a charity he would go through the same process of reducing the dissonance just enough avoid the negative feeling that it creates.

Unsuccessful attempts at dissonance reduction were also accounted for in the coding. These were attempts to engage in a mode of dissonance reduction only to have it fail. Participant DD10 describes one such instance when attempting to deal with the dissonance created by a harrowing ordeal. The participant had been raped by a man that she had been in a relationship with. She went to the police to report the crime:

> *"I went down to the police station eventually and I spoke with a detective and I gave them a photograph of him and his phone number and I told him exactly what had happened and they said to me because I had a psychiatric illness that I would have not made a credible witness in court. And that was the last I heard of him (the detective). He said that he'd bring him in for questioning, but they didn't. So that was a waste of time."*

In terms of dissonance reduction, this is an example of reduction via a change in behaviour (reduction mode number one).

Unresolved Dissonance (Theme 3, Subtheme level 1)

Ongoing dissonance that remained unresolved emerged as a subtheme (level 1) in the Dissonance Reduction theme. This was further subdivided into two further subthemes (level 2) depending on whether the participant had made an unsuccessful attempt at reducing the dissonance, or whether no attempt had been made at all. An example of dissonance remaining unresolved

despite an attempt being made can be seen again in participant DD10 who describes her feelings toward her father. The participant describes a difficult relationship with her father who, according to the participant, had been diagnosed with severe bipolar disorder had violent tendencies. The participant also describes him as behaving selfishly toward his family:

> "*I have a huge conflict about my relationship with my dad. Huge. I don't feel that he behaved protectively towards his children and his wife. How much of it was the illness? I don't know. But I suspect that a lot of it was just him…. My mother would continually say that he was a very sick man. But I don't go around hitting people and I have a mental illness"*

The participant is unsuccessful in her attempt to reduce the dissonance through justification. She considers that it potentially was not his fault and that it was in fact due to his diagnosis, but this attempt is insufficient. She cannot reconcile the fact that her father treated her and her family so poorly.

Unresolved dissonance was also described by participants in the absence of any attempt to reduce it. Participant DD01 (depressed group) describes a very low period during his depression where he experienced ongoing and unresolved dissonance that he says was due to the loss several friends to suicide:

> *"Eventually everything crashed down and I was in my room for about three or four days, mother and father were coming into me asking if I was alright, I kept telling them I was fine. But they knew, they knew there was something wrong with me because I literally didn't move from the bed. I wasn't able. I couldn't face society, I couldn't face going outside. I just wanted to be in the dark."*

Here it can be seen that the participant is low in both physical energy and psychological motivation. He does not engage and is perhaps unable to engage in any dissonance reduction attempts.

5.2.4 Integrated accounts of dissonance in the interviews

The previous section describes the findings based on the use of the advanced analysis template and provides examples from each theme and subtheme. This however only tells half the story. This approach has provided a rich and detailed generalised account of how aspects of dissonance are experienced (between-participant). However, in addition there is a need for analysis on a more holistic level of specific participants' experience, in order to identify the 'process' side of the dissonance experience (within-participant).

According to King (2012), an effective way of presenting the findings of the qualitative data template analysis is to present a set of key individual case studies, followed by a discussion of the differences and similarities between cases. Presenting the findings in this way serves to: a) help provide the reader a good grasp of the perspectives of individual participants, and b) help to ensure that the discussion of the themes does not become too abstracted from their accounts of their experiences. What follows is four participant's descriptions that highlight important aspects of cognitive dissonance. Taking, as a starting point, the application of the advanced analysis template to each participant's experience, a narrative of the process around the dissonance experiences is presented.

Participant DD10, 'Sarah'.

Sarah (Appendix 4), is forty- nine years old with a diagnosis of bipolar disorder and describes her depressive episodes as severe. Sarah discussed several sources of serious inner conflict in her life including abusive partners, that she had been raped, and that her father had been abusive and a violent alcoholic. Her relationship with her father was discussed in the interview as a major source of unresolved dissonance. According to Sarah, her father had been diagnosed with bi-polar disorder and he had treated herself and her family appallingly. Sarah specifies several sources of the dissonance related to her father. One source can be seen in her anger and disappointment in response to her father's unwillingness to help her financially when he was in a position to do so:

> *"He went on massive spending sprees. I asked my dad to buy me a flat, if he could. Because I was never going to be able to take out a mortgage, but he spent every penny on alcohol. Now myself and my daughter, it's not looking good for us. I don't know where we're going to end up next year because we're running out of money. He could have bought us somewhere small, but he went off and drank the money instead. I don't know if that was his illness, maybe he was so alcoholic at that point that all he could think about was his alcohol but I can't believe that a father would do that to his daughter! He knew I had a disability (diagnosis of Bipolar Disorder). I just can't understand that!"*

Another source of father-related dissonance can be seen in her anger at her father for being dishonest about being repeatedly unfaithful to his wife (her mother):

> "*The difficult part with my dad was that he would never ever own up to what he was doing. Like, he had lots of affairs while he was married to my mother. He denied*

everything. When he met another women and left my mother for her, he denied her existence until a girlfriend of my mother's told my mother. He wouldn't even say it to her after thirty years of marriage. Such a chicken. He's always ducking and diving. And that's what really makes me angry about my dad, he just won't be a man about it and be honest. And I get very angry about that. Very".

Sarah describes her experience in terms of her energy levels in physical terms and psychological terms:

"It's like everything I do all day, I have to force myself because my motivation is so bad and my depression is constantly there, I can't actually visualise myself doing things. I have to program my brain to remember to do things. Because what's in my head is black most of the time. There's something kind of shut down in my head… Sometimes when the depression gets very, very severe I don't seem to be thinking about anything. I just seem to be black. Everything just shuts down and I lie on the bed and I'm just shut down."

Here, Sarah describes herself as 'shutting down'. She experiences a lack of physical energy which is commonly seen in depressive episodes (motivational anhedonia). She also mentions a lack of psychological activity. This lack of psychological energy is apparently preceded by a certain overproduction of mental activity. Sarah says that she is "permanently distracted by her thoughts" and that she "just can't stop thinking all the time".

Sarah describes the difficulty that she has in resolving the dissonance with her father as a major contributing factor in her depression. This dissonance was clearly intense and had a major impact on her life:

(interviewer) "So, when you experience that anger, how do you switch off that anger? Does it result in an outburst or does it go away?"

(Sarah) "Well actually it starts to result in very, very severe depression actually. Very severe that I just end up lying on the bed for an hour just feeling so depressed. Very, very, very, severe depression".

When asked how she deals with her dissonance, Sarah says that she is constantly ruminating on her feelings about her father and the other sources of inner conflict in her life. Sarah speaks of what she refers to as her tendency to ruminate in terms of obsessive thoughts. This appears to be an intense and debilitating form of depressive rumination. The source of this rumination (and other dissonance in Sarah's interview) can be framed in terms of unresolved dissonance.

Sarah attempts to reduce this dissonance (and rumination) using two modes of dissonance reduction: 'adding new cognitions', and 'ignore or deny the contradicting cognition'. Sarah's attempts (as do her family) to explain or excuse her father's behaviour by virtue of his diagnosis of bipolar:

> *"All of us wondered, how much of this is his personality and how much of this is his illness?"*
>
> *"My mother would continually say that he was a very sick man. But I don't go around hitting people and I have a mental illness".*

Sarah attempts to reduce the dissonance by considering that there may be a reason for his behaviour but this attempt is unsuccessful and the dissonance remains unresolved.
Sarah also attempts to distract herself in an attempt to reduce the dissonance. She engages in multiple activities such as physical exercise or housework in an attempt to avoid her inner conflict:

> *"Instead of dealing with it, I'll do anything rather than dealing with it. I'll do anything, I'll do the ironing. I'll do anything to avoid dealing with what's in my head. I'm suffering everyday but I just won't deal with it. I just keep avoiding it. I don't know why I just don't deal with it and get help for it. I just keep avoiding doing that".*

Both of these attempts to reduce the dissonance in this case prove to be insufficient in reducing Sarah's dissonance with any substantial success. As a result, the cycle of Sarah's depressive rumination continues.

Participant DD14, 'Mary'.

Mary (Appendix 5), is forty-three years old and has a diagnosis of depression. Mary described the source of her depression in terms of a constant negative feedback from her inner-critic:

> *"My inner critic gives me quite a bashing on a daily basis. It reminds me to watch my twitches, to watch my behaviours, although they are a thing of the past now and I'm controlling them as best I can. Don't look down, that's another behaviour pattern I have, looking down on the ground. And don't give yourself away. Feeling like I'm the village idiot. Not participating more in the community because I shy away from that because they know my business and they know my past and they know that I have depression".*

Mary described being made feel like the 'village idiot' and presumably as if she is not good enough. Mary described the distress caused by the experience as a 'daily bashing'. She puts this in terms of being an enduring experience for her which began in childhood:

"I've had behavioural problems since I was a child anyway so, as soon as I tried to stop and correct them and be a normal person in the normal/ordinary world it was hard for me because the inner critic was always right and it was always saying 'that's wrong, you've got to behave more normally now, you've had your fun, the fun's over', that type of thing".

Mary's dissonance it has a major impact on her life in that affects her social wellbeing in that it stops her from 'participating in the community' and makes her shy away from social interactions. Mary mentioned in the interview that she also hears voices (auditory hallucinations) and believes it to be because of her 'inner critic'.

Mary's attempts to reduce this inner conflict can be described in terms of two modes of dissonance reduction: 'adding new cognitions', and 'ignoring/denying the conflicting cognition'. Mary gave two examples of adding new cognitions:

"The inner critic has its good intentions but its methods are not so good".

"You live in hope, you constantly live in hope that the critic won't give you a hard time too much regarding the way you get dressed, the way you eat your breakfast, the way you have conversations with people, the way you crack a joke, the way you talk to people, the way you say hello on the street, the way you are, who you are is constantly being criticised or judged or corrected because I got it wrong so many times over the years I've got to make up for all those years, with or without the critic I've got to get it right now".

Mary also attempts in several ways to distract herself from her conflict:

"meditation plays a reasonably big part of my life. Without it I couldn't really relax or get out of the house or get out of bed.

"It can get quite 'heady'. So I like to keep the body moving and I like to get my awareness into my feet.

"You can go out for a walk and you can come home feeling a bit more revived and refreshed because you got out and got some fresh air and you've got the body active and the body plays a big part in depression as well.

"It's step by step. It's one or two physical walks a day for thirty minutes, if you can.

"It's looking after your personal hygiene, having a nice hot shower. It's putting a bit of make up on if you're not a makeup person, if you're female. It's getting your hair done. It's remembering others too. It's compassion".

These attempts reflect general approaches to dissonance resolution rather than specific attempts. They are not sufficiently effective to resolve Mary's dissonance in the long term. They may offer short-term relief but the source of her conflict remains and the dissonance she experiences remains and manifests itself, in Mary's case, as rumination:

> *"So, yeah, the critic can cause a lot of thinking. You can doing a lot of over-thinking and to even nearly analysing those thoughts and getting stuck on thoughts, just thinking and thinking and thinking… All the time. And not doing or being or being active. And then you get so exhausted from all the thinking and the battering that the inner critic can give you that you just have to stop and go to bed or lie down. Then sometimes you lose your appetite as well".*

Mary is aware of the negative effect that rumination has on her but feels unable to avoid it:

> *"I think I definitely had, I've had it with rumination to be honest because I've had it so much in my life. It definitely has played a huge role in my diagnosis of depression. It's made me depressed. It's made me beyond depressed".*

Mary describes her episodes of rumination as being exhausting. Periods of overactive thinking followed by psychological and physical exhaustion to the extent that she has to go to bed. It appears here that Mary's over thinking can be framed in terms of ruminative dissonance, i.e. prolonged periods of unresolved dissonance. As Mary becomes exhausted and the ruminative dissonance goes unresolved, it is then when it seems to develop into a deeper and more depressive rumination. This suggests that her depressive rumination is preceded by a milder state of ruminative dissonance. This will be further explored in the discussion chapter.

Participant ND09, 'Lisa'.

Lisa (Appendix 6) is a twenty-four year old female (non-depressed). Lisa described a major source of dissonance in her life centred around her experiences of her mother's illness. Lisa experienced a strong sense of guilt about not being there for her mother when her mother was receiving treatment for cancer. Lisa experienced this guilt intensely. As Lisa was quite close to her mother, this situation is bound to have had a substantial impact upon her. Lisa's energy levels seemed affected but in the short term and after her mother had passed away. Lisa experienced 'ruminative dissonance' in relation to the regret she felt. She said that she found it hard to stop thinking about certain 'what-if' thoughts:

"… and you can't stop thinking about certain things. You think 'if I had done that thing differently, would this have changed'? Or if this person had have done this thing differently, would it be different? That kind of thing".

Lisa attempts to manage her dissonance by using a varied combination of dissonance reduction modes which individually may have had varying degrees of success but overall and in combination however appear to have been effective. Lisa's attempts to manage her dissonance show her engaging in all four modes of dissonance reduction. In terms of feeling guilty about not accompanying her mother in the early stages of her treatment, Lisa demonstrates a change in behaviour when later on in her mother's treatment she does in fact attend the hospital to keep her mother company. Lisa uses additional cognitions when she told herself at the time that "she probably wasn't needed there, so there's no point in me going". Lisa also reduces the importance of a conflicting cognition when she tells herself that it probably wasn't that serious: "I didn't think that my mother was going to die or anything, so I thought that it didn't really matter that much". And finally Lisa can be seen avoiding the dissonance. She described that she was unwilling (or unable) to confront the situation:

"I was just completely avoiding it and just not wanting to go in (to hospital) and was just thinking that if I don't go in then this isn't real".

Lisa also goes on to say that her experience of attempting to manage her dissonance on this experience has had a positive lasting impact in two different ways. Firstly, she says that has become more supportive of people in her life in general, and secondly that it has brought her family closer together:

"It nearly made me a better person. I was nearly there for people more because I don't want to feel that again because that was not nice."

"After everything happened our family came together so much more after Mum died because we knew that we have to there for each other now, through this, rather than pushing apart and not being close. We weren't a close family before Mum died and I spent a lot of time with Mum outside the hospital".

The successful reduction of her dissonance appears to have afforded Lisa a stoic perspective where she identifies certain positive aspects to the difficult time that she has been through.

Participant ND09, 'Emma'.

Emma (Appendix 7) is a twenty-one year old female. She has a NFQ score of four (Secondary level, Leaving Certificate). She has no history of any psychological issues. Emma described a source of dissonance related to her not being able pursue her dream of training to be a veterinarian when she finished school. She realised that she would need to excel in subjects that she was not very good at (particularly Maths and Chemistry).

Emma's dissonance here can be framed in terms of the conflict between her career aspirations and the knowledge that she will not be able to realise those aspirations. She does not articulate the resulting feeling to any great extent. When asked whether she feels hard done by, she says:

> "*Slightly when I see people I know becoming vets and living the dream that I always wanted when I was younger*".

It is not immediately clear whether the duration of the dissonance is short term, or more enduring. On the one hand, Emma had always wanted to be a vet and might have experienced quite strong dissonance when she realised that she might not be able to qualify for the university course (on account of not being proficient at the necessary subjects):

> *"When I was doing the leaving cert I was very, very stressed and put a lot of pressure on myself to do the best that I can, I wanted to be a vet but it was a hundred points more than I could ever get. So I put a lot of stress and pressure on myself to get those points and I wouldn't leave the house some days. I would literally spend the whole day just studying. But it would be a most unproductive time. Because I'd be so stressed that I'd have to learn all this".*

Emma speaks of her experience of this dissonance in relatively brief terms. She says that when she realised that becoming a vet wasn't to be, she changed her "whole mindset". She does not talk about it in terms of being ongoing or unresolved. In terms of energy levels, there is no specific reference as to whether or not she found it particularly draining. The dissonance has not appeared to have any particular influence on her physical energy. There does however appear to be a considerable psychological creative energy involved with this dissonance in terms of the number of additional cognitions are generated by the participant. In terms of the impact this has had on Emma's life, the experience has had a significant impact on her life. She has to abandon her dream of becoming a vet and change her career trajectory completely.

Emma manages this dissonance using mainly additional cognitions. She provides at least eight examples of reasons that justify she shouldn't be upset at not being able to pursue something that she has wanted for a long time. These reasons refer to either why she is probably better off

not being a vet at all, or else why her alternative career in school-teaching is a more desirable option. Emma also reduces the importance of one of the conflicting cognitions:

> *"realised half way through sixth year (secondary school) that I really didn't care. It I didn't get it then it wasn't meant to be".*

What is of particular interest is the sheer amount of justifications that Emma comes up with in her attempts to manage this dissonance. She says that is and that the dissonance is pretty much resolved and that she feels only slightly hard done by when she sees others living the dream that she had always wanted when she was younger. The resolution of this dissonance appears to require quite a lot of effort.

The preceding four case studies comprise a selection of the rich and detailed accounts of participant experiences of dissonance. The case studies serve to highlight important examples of differences and similarities found in the dataset. For example, the two non-depressed participants differ in that their dissonance was largely successfully reduced. The two non-depressed participants show a greater quantity dissonance reduction attempts as well as a greater variety of dissonance reduction modes. The next and final section of this chapter will provide a general comparison between the DD and ND groups.

5.2.5 Comparison between the Depression diagnosis (DD) and Non-depressed (ND) groups

This section will provide an overview of a comparison of the two groups. The subthemes that emerged from the data allow a detailed description of each participant's dissonance experiences. Examples of contrasting quotes are provided in table 5.8 below. They are provided in a side-by side tabular format to highlight the contrast between the two groups on the themes that were identified in the data. Although it Is difficult to make a detailed comparison, when the different subthemes are combined into a narrative description it becomes possible to observe qualitative differences between the members of the two groups.

Table 5.8: Comparison of contrasting quotes from both groups.

Broad Themes	Sub-themes (Level 1)	Sub-themes (Level 2 & 3)	DD Group Examples Quotes	ND Group Example Quotes
Theme 1: Conflict	Dissonance conflict	• Feeling specified • Feeling not specified	*One of them was a very good friend of mine, we were best friends. And it was about four days before Christmas, he hung himself. That's when all this started. 'If I'd have done this', and 'if I'd have done that', all this happened. I was, not blaming myself, but I felt I could have done more. (DD01)*	*One of the big things would have been whether or not to put Mum into a (nursing home) last year…Just actually getting your head around the fact that not only was I not able to do what I thought I was going to be able to do, but that those are doing it are providing a better quality of life for my mother. It's very strange…Yes, the guilt with a parent is huge. (ND06)*
Theme 2: Dissonance experience	Duration	• Enduring • Short-lived • Not specified	• Enduring *I spent a month or two with this thing on my mind and wrestling with that. It wasn't going anywhere, (DD09)* • Enduring *It was twenty-nine years ago. But I still think about it every day. (DD10)*	• Short-lived *It probably affects me from anywhere between one and five minutes and then it's gone. (ND02)*
	Energy Levels	• Physical • Energising • Draining • Not specified	• Physical • Draining *I literally didn't move from the bed. I wasn't able. I couldn't face society, I couldn't face going outside. I just wanted to be in the dark. To say hello to someone was an effort. (DD01)*	• Physical • Draining If I'm at home and I'm thinking about it that I've to do this and this and this, I feel really sluggish (ND12)
		• Psychological • Energising • Draining • Not specified	• Psychological • Draining *I don't know why that is. It's connected to depressive illness. But mentally I get exhausted, really exhausted. And I can go to bed at nine o'clock every night because I'm so exhausted from the thoughts in my head. (DD10)*	• Psychological • Energising That's how I bring it back, I think to myself 'how would I feel if somebody spoke that way to me like that?' So I try and go away and think about it. (ND07)
	Impact	• Significant • Not significant • Not specified	*The second I woke up in the morning, I 'm going through all these situations in my head where I'm going to make a fool of myself. It's stupid because all of these things are never going to*	Not that bad. A mild stressor in my life (ND08) Just try to stop it and clear it out of your head. Clear it. Gone. (ND07)

			happen but my brain constantly goes around in circles. I'm always preparing for the worst. (DD07)	
	Intensity	• Major • Minor • Not specified	• Major *Just the fact that when I was feeling bad about myself, it was hard to do anything about it but when I started feeling really guilty about my other family members and the effect that it was having on them… (DD07)*	• Minor *No it's not problematic. I don't think in general that I'd have too much problems with inner conflict. Usually I can justify certain things. (ND02)*
	Rumination	• Depressive rumination • Ruminative Dissonance	• Depressive rumination *And when I say depressed, when I came home from Dublin, my depression would be isolation, total isolation. I'd isolate myself in the room and I wouldn't come out. And I'd stay in the bed with this inner conflict all the time, inner conflict, mind, and inner conflict all the time. Going over it all the time (DD05)* • Ruminative Dissonance *Often when I look back on it a while later I realise that it was nothing and nobody was even probably thinking about it. But I'll be thinking about it. (DD07)*	• Ruminative Dissonance *They're (negative feelings) there every day. What I do is that I manage them every day. (ND05)*
Theme 3: Dissonance Reduction	Reduction modes	• Change beh. or cog. • Add new cog. • Reduce the importance • Ignore or deny • Unsure/ miscellaneous	• Ignore or deny *Drink was my outlet at the time. It would make you feel a bit better but the following day, it was still there. But you would keep drinking so much that it would be out of your system, but it always came back. (DD15)* • Add new cog. I'm just a very sensitive person, that's just who I am. (DD06)	• Change beh. or cog. I was with my sister some years later and we got into difficulty and I told her that I wouldn't leave. I didn't care if I was going to drown, I couldn't go through that feeling again of leaving someone…we were fine. (ND15) • Change beh. or cog. *But I did come to a compromise that kind suited/made the playing pitch even. But it took me a while to come to that. And it did involve an action on my part.* *I would have rather had not had to do it. Because it did*

			involve me having to back track and look a little bit (bad). But I felt better over it so, and that was more important to me. (ND14) • Add new cog *I think, one night I remember calming down because I concluded in my own head that I wasn't going to give the talk, so then I completely calmed down. (ND02)* • Reduce the importance *…and then I realised half-way through sixth year (secondary school) that I didn't really care, if I didn't get it, it wasn't meant to be. (ND09)* • Ignore or deny *That's exactly what I was doing. I was just completely avoiding it and not wanting to go in (to the hospital) and just thinking that if I don't go in then this isn't real. (ND10)* • Unsure/miscellaneous Or I might write a letter when I go home or write something down and get it out of my head and onto ta piece of paper. (ND07)
Reduction success	• Successful (long term) • Successful (Short term) • Unsuccessful • Specific example • Resolution style	• Successful (Short term) *And then it would come back and go again so it would be a constant push-and-pull struggle against that. And then maybe afterwards, like a few days later or whatever, I would feel the same negative emotions. (DD08)* *I'd still feel that sense of shame. It resolves in the moment, but not for ever. (DD08)*	*I think that distraction is a big part of it… I think that's (it's) just passage of time where over time there is enough distraction, so I don't have to deal with it anymore… It's still there, it's not like I've dealt with it and that I'm satisfied now that I've rationalised enough that I feel like my behaviour was acceptable, it's just that I can do enough thinking about it that I feel like I've broadly understood what's gone on and then with the passage of time there's enough distractions where I just stopped thinking about it. But if I'm reminded about it, it's all still there. (ND01)*

Unresolved dissonance	• Unsuccessful attempt • No attempt made	• Unsuccessful attempt *And I try physical exercise. I walk a few dogs every day and I thought 'this was great, a bit of physical exercise will stop the thoughts'. But it doesn't stop the thoughts. (DD10)* • No attempt made *But mostly think I just lived with it. (DD11)*	• Unsuccessful attempt *See what has happened is that the stuff has pile up simply because things didn't move through no fault of mine. (ND05)* • Unsuccessful attempt *I have had times where I've chosen to tell her about it and the penalty is just too great. I know what the result will be if I do it that way so I choose not to worry her about it. (ND13)*

Source of Dissonance

Both groups provided similar numbers of dissonance experience (DD25, ND27). There was however a striking difference in the quality of the sources of dissonance between the two groups. The DD group, as a whole, seemed much more likely to discuss sources of dissonance in terms of very serious themes such as drug addiction, alcoholism, abuse, and suicide. While they were also able to discuss more trivial sources of dissonance, such as the everyday examples of dissonance described in the Dissonance Questionnaire, it was evident that for them incisive and often persistent dissonance inducing life events dominated their experience of dissonance. Participants in the ND group appeared less likely to discuss more serious themes. Table 5.9 (below) provides a side-by-side sample comparison of the themes that served as the source of dissonance that were discussed in the interview phase of the study. There is a clear distinction between the two groups in terms of the apparent seriousness in the sources of dissonance that were discussed. This finding is further supplemented with table 5.10 below that shows that there were key differences between the groups in terms of impact, duration and intensity. This finding is further discussed below in (section: Overall Experience of Dissonance) For the most part, the non-depressed group were more likely to discuss dissonance caused by interrelationships with friends, family, and work colleagues with less emphasis on implications for the self. Also, the descriptions of the resulting emotions were noticeably contrasted. The ND participant group were able to label their emotional reactions in terms such as guilt, regret, and shame. The depressed group more often described their emotional reaction less succinctly but with more nuance. Phrases such as 'inferiority complex', and 'feeling like the village idiot' were used instead of emotional labels.

Table 5.9: A side-by-side comparison of the dissonance themes discussed by both groups.

Dissonance Themes	
ND Group	DD Group
Regret for inaction	Suicide
Fear of public speaking	Alcohol/Drug
Fear of failing at a new job	Self-harm
thoughts of infidelity	Physical Abuse
neglecting work/life balance	Sexual Abuse
Rudeness in the workplace	Emotional abuse
Unfulfilled career aspirations	Marital breakdown
Family guilt	Workplace bullying
Family bickering	Rape
Workplace bickering	Violence in the home

Table 5.10: The data illustrates key differences between groups in terms of Impact, Intensity, and Duration of dissonance themes.

Dissonance Themes	**DD Group**	**ND Group**
Impact	15	9
Substantial	3	11
Non-substantial		
Intensity		
Major	17	11
Minor	3	13
Duration		
Enduring	20	16
Short-lived	2	13

Overall Experience of Dissonance

In terms of how long dissonance experiences lasted for participants, both groups had examples of both enduring and short-lived experiences of dissonance. The DD group however described slightly more examples of enduring dissonance, some of which lasted for months and even years. For example, when participant DD10 described how she felt about having been exploited and terribly mistreated by several men nearly three decades ago, it is a source of dissonance for her that she still experiences every day. The ND group had substantially more dissonance experiences that were short-lived (DD: 2, ND: 13).

Although not all participants made reference to how their experiences of dissonance affected their energy levels, it appears that the depressed group generally experienced more physically

draining effects associated with their dissonance experiences (DD: 11, ND: 6). Psychological energy levels were however quite mixed for both groups. What did appear in terms of psychological energy however was that ND participants seemed to find their dissonance experiences more psychologically motivating than DD participants. This psychological motivation is apparently reflected in the amount dissonance reduction attempts generated by the ND participants.

The depressed group also appeared to have more intense dissonance experiences which had a greater impact on their lives in general. DD participants described more dissonance experiences that had substantially impacted their lives in general (DD: 15, ND: 11), as well as having less dissonance experiences that could be described as having no substantial impact on their lives (DD: 3, ND, 11). The same trend can be seen in terms of the intensity with which participants described their dissonance experiences. DD participants described more experiences in terms of major intensity (DD: 17, ND: 11) and less experiences in terms of minor intensity than ND participant (DD: 3, ND: 13).

The DD group described thirteen experiences of depressive rumination. Depressive rumination was deemed to have occurred when participants dwelled on a negative thought cycle to the extent that it impeded their ability to work, socialise, and generally go about their lives. There were no descriptions of depressive rumination in the ND group. Both groups experienced ruminative dissonance. The DD group described twice as many accounts of ruminative dissonance (DD: 16, ND: 8) It will be discussed in the next chapter whether the possibility that unresolved ruminative dissonance might actually develop into depressive rumination It did appear in certain cases in the depressed group that ruminative dissonance that continued unresolved might possibly have generated into depressive rumination.

Dissonance Reduction

There was a noticeable difference in how both groups reduced or attempted to reduce their dissonance (See table 5.11). The most common mode of dissonance reduction was Mode 2 (Additional Cognitions). The ND group did however describe nearly twice as many additional cognitions as the DD group. The least common dissonance reduction mode was Mode 3 (Reduce the Importance of the Conflicting Cognition or Behaviour). Again, the ND group engaged in twice as many attempts as the DD group. The ND group engaged in more Mode 1 attempts (DD: 11, ND: 18). The DD group engaged in more Mode 4 (Ignore or Deny Conflicting Cognitions or Behaviour) attempts (DD: 18, ND: 12).

Table 5.11: Summary of dissonance reduction attempts for both groups.

Mode of Dissonance Reduction	DD Group	ND Group
Change beh or cog	11	18
Add an additional cog	31	60
Reduce the importance	3	7
Ignore or deny	18	12
Unsure/Miscellaneous	2	0

Table 5.12: Summary of dissonance reduction attempts for both groups with sample quotes from each mode of dissonance resolution from both groups.

Mode of Dissonance Reduction	DD Group	Sample Quotes	ND Group	Sample Quotes
1. Change Beh or Cog	11	"*The inner conflict was more 'I have to do this for me, I have to stand up for myself and if that means I have to step away from my parents and my sister and whatever, that's what I have to do'." (DD13)*	18	"*I think, one night I remember calming down because I concluded in my own head that I wasn't going to give the talk, so then I completely calmed down." (ND02)*
2. Add an additional cog	31	"*I was glad he was dead because I wasn't going to be abused anymore." (DD03)*	60	*"So, I'm not proud of what I did but I think that in the end it made us way closer, but that's not something that you can be proud of." (ND04)*
3. Reduce the importance	3	"*But mostly I think I just lived with it. I didn't know that you were supposed to not… There's a level of awareness that we have now about these things that's so much higher. At the time it was just like, get on with it. It's not a real problem. You have people that are dealing with serious illnesses, it's not a real problem, and it's just you feeling sorry for yourself." (DD11)*	7	"*So, then I think that it doesn't matter. So, I suppose that's how I kind of rationalise my, thinking. (ND05)*
4. Ignore or deny	18	"*…because of the way I was feeling I started drinking a lot and because of where I lived, there was a lot of drugs and that's when I started dabbling in cocaine, just to numb how I was feeling. To not deal with reality. I couldn't face up to what was wrong with me. That's basically where it all began. To go downhill." (DD01)*	12	"*Like instead of ending my day in rumination I started keeping a gratitude journal for small things so you're forced to focus on positive aspects of life, instead of focussing on the negatives." (ND04)*
Unsure/Miscellaneous	2		0	

The participant groups can also be contrasted in terms of how successful they were in their dissonance reduction attempts. Dissonance reduction success emerged as a theme that described if an attempt at reducing dissonance were successful or not. Dissonance reduction

success was considered in terms of three subthemes: successful (short-term), successful (long-term), and unsuccessful. Successful (short-term) dissonance reduction describes situations where participants reduce the dissonance enough to allow the negative emotional experience to pass. The dissonance and the negative emotional experience are not however fully resolved. Many instances of dissonance successfully resolved in the short term revealed a tendency to return. Successful (long-term) dissonance resolution here describes situations where participants successfully reduced or resolved their dissonance without the likelihood of it recurring. Unsuccessful attempts at dissonance reduction attempts to engage in a mode of dissonance reduction only to have it fail. Although both groups had a similar amount of attempts that were successful in the short-term, The DD participants had nearly half as many attempts that were successful in the long-term (DD: 7, ND: 13). The groups also differed in the amount of unsuccessful attempts at reducing dissonance (DD: 9, ND: 2). This would indicate that at for the ND group, when they experienced dissonance, it was reduced for the most part at least in the short-term.

Table 5.13: Dissonance reduction success.

Success	DD Group	ND Group
Short-term	14	13
Long-term	7	13
Unsuccessful	9	2

5.3 Conclusions

This chapter presented the analysis and the findings from the study. The template analysis that was generated allowed for a structured interpretation of experiences of dissonance for both groups. These accounts of dissonance can be contrasted in terms of the subthemes that were generated by the analysis template. This chapter has described the prevalence of dissonance experiences that were discussed as well as a qualitative comparison of dissonance experiences between the two participant groups. A summary of the findings showed that both groups described a similar amount of dissonance experiences but that these experiences differed quite substantially in terms of: the source of the dissonance described, the overall dissonance experience, and how the dissonance was reduced.

The DD group described more serious life experiences as the source of dissonance as well as experiencing them for longer periods of time, with more intensity, and as having a greater impact on their lives in general. DD participants described twice as many accounts of what was called for

this study ‘Ruminative dissonance’ i.e. dissonance that went unresolved for an extended period of time.

The findings also show that the ND group described twice as many additional cognitions (Dissonance Reduction Mode 2) in their attempts to reduce their dissonance as the DD group. The ND participants had more Mode 1 attempts (Change Conflicting Behaviour or Cognition) and less Mode 4 attempts (Ignore or Deny Conflicting Cognitions or behaviour). Although both groups had similar success in reducing dissonance in the short-term, The ND group proved to have greater long-term success. The ND group also had less unsuccessful attempts.

The next chapter (Chapter 6: Discussion) will discuss these results in terms of cognitive dissonance theory. It will be explored whether there is a discernible explanation for the similarities and differences that have been observed in the data.

6: Discussion

This chapter will present an interpretation of the qualitative and quantitative findings and a critical discussion of the overall findings of the study in the context of previous research. This will be followed by a discussion of the strengths and limitations of the study. Following this, the implications for future depression research and interventions are discussed. Finally, the chapter ends with recommendations for future studies and a conclusion of the overall study.

6.1 Integrating the study's findings

As described in Chapter Four (Methodology) the present study utilised a hybrid concurrent methodology (partly nested and partly triangulation). The concurrent nested aspect considers the relationship between the results of a depression measure (CESD-10), and the division in participant groups according to depression diagnostics. The concurrent triangulation focussed on a comparison of participant responses to a cognitive dissonance measure (DiEL questionnaire) and the experiences of dissonance related in the interviews. This hybrid approach allowed for the combination or integration of multiple data sources in order to more comprehensibly address the research question. This approach was particularly appropriate for the present study given the exploratory nature of the subject matter. In a mixed-methods study there are several points where the quantitative and qualitative phases may intersect (Doyle, Brady, & Byrne, 2016). This intersection may take place during the design, method, analysis, results, and discussion stages, or at a combination of stages (Fettersm, Curry, & Creswell, 2013). For the present study, the most important stage at which these phases intersect is here in the discussion stage (see Figure 6.1).

6.1.1 Concurrent Nested: Group Verification and the CESD-10 Depression Scale

The results of the depression scale (CESD-10) showed that there was a significant difference between the two groups in terms depression symptoms. This confirmed the selection principle that one group had been selected because they had a diagnosis of depression (DD) and the other because they did not (ND). In order for a meaningful comparison between these groups to be made, it was necessary to ensure a difference between the two groups in terms of their experience with depression and depressive symptoms. The results of the CESD-10 depression scale showed significantly higher scores for the DD group, which confirmed the selection principle. The extent of the difference in CESD-10 scores provided a degree of confidence in the distinction between the two groups. In short, this result supports the group selection of

depressed and non-depressed participants. Accounts of experiences of depression in the DD group, but not in the ND group further confirmed the group distinction.

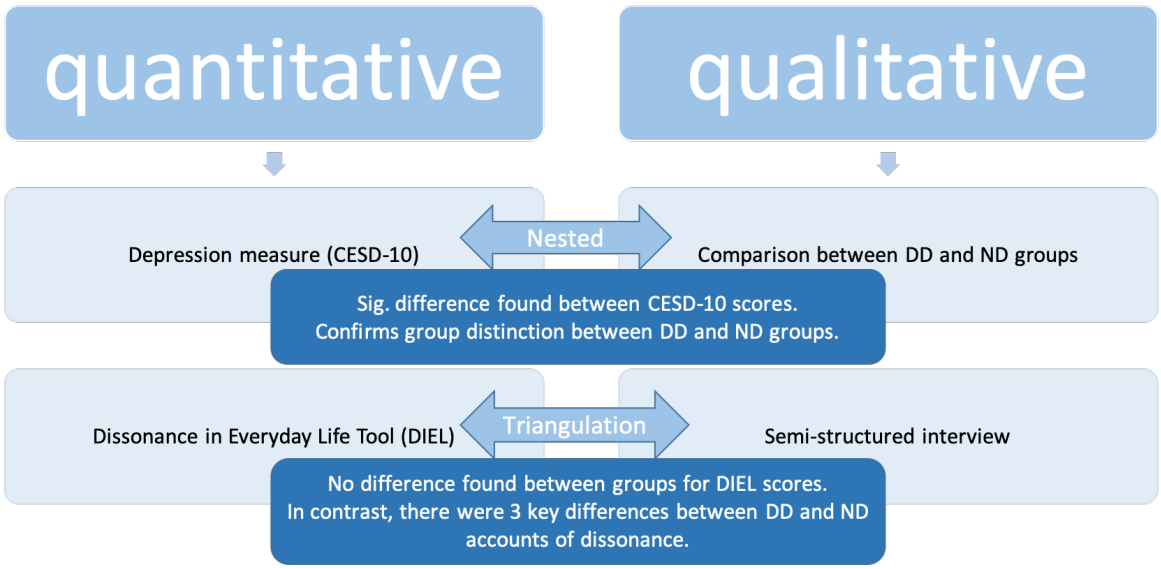

Figure 6.1: The hybrid methodological design including a summary of the study's main findings.

6.1.2 Concurrent triangulation: Integrating the DiEL questionnaire with the qualitative data.

The DiEL Questionnaire used for the present study had been adapted from De Vries, Byrne, and Kehoe (2015). It was used to measure participants' discomfort in response to everyday dissonance scenarios which could then be compared between the two groups. The participants were asked to respond in terms of how pleasant/unpleasant their reaction was to ten scenarios that were comprised of examples of everyday dissonance provoking situations. Each pleasant/unpleasant response that was generated by each scenario was assigned a value and the value totals of both groups were compared. The results of this comparison did not yield a significant difference between both groups. In other words, there was no difference between the accrued discomfort generated by the dissonance scenarios between the two groups. The results suggest that both groups had a similar discomfort response to examples of everyday dissonance. This is in itself an interesting finding in that there was no apparent hypersensitivity to everyday dissonance in the DD group. The dissonance scenarios presented in the DiEL questionnaire were purposefully selected so they would be relatable to both groups. The dissonance scenarios were low-salient experiences in which serious long-term implications for the person were avoided.

Potential items, such as lying to a loved one's face or purposely hurting someone, were not included. These examples would potentially invoke a more intense dissonance reaction. This is important, because it suggests that low salience, low intensity everyday dissonance provoking situations did not yield a more intense dissonance discomfort response in the group with a depression diagnosis.

A higher discomfort score by the DD group might have been anticipated according to the limited available research on depression and dissonance. Stalder and Anderson (2014) tentatively concluded from their study that people with depression might be more sensitive to dissonance arousal. Findings from the present study did not confirm this, with regard to low-salience dissonance experiences. Since Stalder and Anderson (2014) used an induced-compliance dissonance paradigm which included a potentially more salient dissonance manipulation, it is possible that this difference might account for the contrast in findings. Having said this, the fact that participants in the present study did not respond differently to the everyday dissonance situations they were presented with is food for thought. It does justify the suggestion that if people with depression have more intense dissonance experiences, as the interviews showed, it may not be because they are generally more prone to respond with strong dissonance in everyday life.

In terms of the main qualitative findings there was, firstly, a difference observed between the sources of dissonance from the two groups. It was found that DD participants cited much more serious conflicts in their lives which were at the heart of the dissonance that they discussed. This will be discussed in the context of the 'life-stress theory of depression'. Secondly, several experiences of dissonance described by DD participants could be related to Beck's cognitive theory of depression. This is discussed in terms of the 'negative self-schemas' aspect of Beck's theory. Thirdly, there were differences observed between the groups' attempts at dissonance resolution. It was found that the ND group's attempts at dissonance resolution were more numerous and varied than the DD group. This finding is discussed in terms of cognitive flexibility theory.

Table 6.1:Summary of significant findings and related theoretical context.

Study Finding	Relevant Theoretical Context
Sources of Dissonance: • Large difference found between sources of dissonance conflict,	Life-Stress Perspective of depression.
Dissonance examples: • Dissonance examples that serve as both a dissonance source and a self-defeating attempt at reduction.	Beck's Cognitive theory of depression: Negative Self Schema.
Dissonance Resolution: • ND group had more attempts at reducing their dissonance experiences. Their attempts were also more varied.	Cognitive Flexibility theory.

6.2 Dissonance related to depression.

The study's findings suggest that there is indeed scope for a meaningful discussion of depression in terms of dissonance theory. The three significant findings are discussed here in connection with the relevant literature. Some of the literature that is discussed here has been introduced and described in Chapter Two (Theoretical background), such as Beck's cognitive theory of depression and stress theory. There is also literature relating to theory that had not been anticipated before the data collection stage, such as cognitive flexibility theory. This had only come to light after the data analysis phase. The findings are also discussed in terms of the Dissonance Depression Cycle Model that was also introduced in Chapter Two (section 2.6).

6.2.1 People with depression may experience more serious sources of dissonance and therefore experience more intense inner conflicts

The DD group, as a whole, appeared much more likely to discuss sources of dissonance in terms of very serious themes, such as those relating to drug addiction, alcoholism, abuse, and suicide. While DD group participants were also able to discuss more trivial sources of dissonance (such as the everyday examples of dissonance described in the DiEL Questionnaire) it was evident that for the DD participants' incisive and often persistent dissonance-inducing life events dominated their experiences of dissonance. This difference can be seen in table 5.12 which illustrates a side-by-side sample of the themes discussed in the interviews. The topics discussed by the ND group tended focus on guilt, fear, and minor arguments with family and work colleagues. The topics

discussed by the DD group were by comparison much more serious. These included suicide, drug and alcohol addiction, and physical and sexual abuse. The dissonance that was discussed by the DD group was also reported to be more intense, have a greater impact, and be more enduring. A comparison of these themes of participants dissonance experience can be seen in table 5.12 Participants in the ND group appeared less likely to discuss more serious themes and gave the impression that their dissonance experiences were much less intense.

Life stress and biological vulnerability have long been suspected to play important roles in the onset of depressive episodes (Jackson, 1986; Mazure, 1998). In particular prolonged stress which after a period of resistance may lead to exhaustion (Selye 1956) or burnout (Maslach & Leiter, 2016). It is not yet clearly understood how life-stress factors combine to cause particular occurrences of depression, (Kendler, Gardner, & Prescott, 2002; Monroe & Simons, 1991), but exhaustion, and depressive symptoms such as negative affective states and rumination are equally consistent with prolonged unresolved dissonance as with depression, to which the DD participants in the present study have demonstrated. This is illustrated in the dissonance depression cycle model below. When unresolved dissonance is considered in the context of stress theory, its unrelenting and cyclical nature can be appreciated.

This finding is consistent with a much-publicised perspective of depression known as the 'life-stress perspective'. This perspective represents a widely documented (but not very well understood) association between major stressful life events and the onset of clinical depression (Monroe & Reid, 2009). Stress theory has been traditionally approached from three different perspectives: environmental, physiological, and interactional. Before considering the significance of the first qualitative finding, these perspectives are briefly explained.

Environmental stress theory looks at stress in terms of the actual stressful events themselves, as opposed to the effects of stress on the mind or the body. These events can be positive or negative changes in an individual A highly cited example of research from environmental perspective of stress theory is the Holmes and Rahe (1967) Social Readjustment Model. This is a scale that measures the amount of stress a person has been exposed to in the past twelve months. More accurately, it is a cumulative measure of the stressful events an individual has been exposed to in the past twelve months. The scale lists and rates both positive and negative changes that are known to elicit stress. According to this perspective individuals that are exposed to more stressful events (and therefore higher amounts of stress) are more susceptible to physical and mental illness. Although the Holmes and Rahe stress scale has had its critics for reasons such as its lack of validity in non-western cultures, the environmental stress perspective has since seen

improved methods of assessment and research design. In terms of depression research, this perspective has established a somewhat robust and causal association between stressful life events and depression (Hammen, 2005).

Alternatively, physiological stress perspective looks at stress in terms of its effect on the body. The physiological perspective of stress theory has led to research that has focussed on how depression may be linked to nervous system dysregulation. The focus of this research specifically identifies the effects of the stress response particularly in the context of chronic stress (stress that continues unresolved). The physiological perspective of stress theory has been outlined in this context in Chapter 2 (2.4.3 The stress perspective on depression). One important consequence of chronic stress is the exhaustion of one's stress response. This is a disruption of an individual's ability to physically respond to stress. The psychological ramifications of exhaustion have been documented in Maslach and Leiter's (1986) concept of burnout. Burnout is a concept that is usually associated with chronic stress in the workplace. It is a state of emotional, mental, and physical exhaustion that manifests itself as cynicism, low mood, and lethargy. The concept of burnout has a significant overlap with depression. Many researchers investigating burnout have identified a nearly identical symptom-profile to individuals with depression (Bianchi et al. (2014).

The third perspective in stress theory, the interactional perspective, looks at an individual's psychological reaction to stressful events. A highly cited theory from this perspective is Lazarus and Folkman's (1984) appraisal theory. Appraisal in this context means how a person assesses or interprets their situation when encountering a stressful event. Appraisal theory essentially describes why people react to stressful events differently. In appraisal theory Lazarus and Folkman describe the psychological reactions to stressful events as being divided into primary and secondary appraisal processes. An individual's primary appraisal of a stressful situation is an assessment of the threatening nature of the stressor. What one person finds threatening another person might interpret as a challenge which can be overcome. According to appraisal theory a person also engages (often simultaneously) in a secondary appraisal process, which is an assessment of their coping resources. This is an evaluation a person makes about their own ability to overcome the stressor. Lazarus and Folkman incorporate their theory of appraisal into the transactional model of stress management (1984). In the transactional model, a person's coping resources are described in terms of an individual's cognitive and behavioural attempts to manage the internal and external demands placed on them.

The distinction between the different perspectives within stress theory allows for different and complementary approaches to stress management. Different stress management techniques may

be used in combination with one another for increased effectiveness. Stress management from an environmental perspective would, for example, involve reducing the amount of stressful episodes to which an individual is exposed. The physiological perspective, on the other hand, focus on reducing the impact of stress on the body. This can be achieved through behavioural exercises such as deep breathing and muscle relaxation. These exercises activate the parasympathetic branch of the autonomic nervous system (the so-called 'rest and digest' response) thus reducing the body's stress response. The interactional perspective gives rise to an approach to stress management based on appraisal processes, known as appraisal-focussed coping (Lazarus and Folkman, 1990). This is when an individual reframes their response to a stressful event by altering their appraisal process. Instead of seeing a stressor as a potential threat, the individual would attempt to view it as a challenge, something to be overcome. Instead of focussing on their inability to cope, an individual might instead focus on the coping resources that they possess.

By considering an individual's experiences of recurring or unresolved dissonance in terms of stress theory, it may be possible help reduce this dissonance more effectively. For example, it may be possible to develop a depression intervention by combine more effective dissonance reduction with other stress management techniques, such as appraisal-focussed coping. This finding suggests that a 'dissonance-focussed coping' technique would be a worthy avenue for future research.

6.2.2 People with depression might use negative self-schemas as dissonance reduction strategies

The study's findings revealed several sources of dissonance from the DD group which share an interesting overlap with Beck's cognitive theory of depression. Beck's cognitive theory (outlined in Chapter 2) describes depression from an information-processing perspective of depression and the cognitive processes that precipitate depressive symptoms. Negatively biased cognitive processes (attention, processing, and memory) are triggered by negative self-referential schemas see (figure 6.2 below). The function of CBT in the treatment of depression is to address the cognitive distortions that cause (and are caused by) a negative self-schema. In cognitive psychology a self-schema is the mental representation that each individual is proposed to have about them-self. As described in chapter 2 these cognitive distortions (e.g. catastrophic thinking) are the result of biases in a depressed individual's attention, cognitive processing, and memory.

In CBT the depressed individual is encouraged to address these cognitive distortions and replace them with more healthy or functioning reasoning.

In the present study examples of negative self-schemas can be seen in several examples of dissonance observed in the interviews from DD participants. One example that was used by a participant was a self-diagnosed 'inferiority complex' where participant DD06 described experiencing a persistent and intense feeling of inadequacy:

> *"I've always had an inferiority complex, that I wasn't as good as anybody else. it's just something I've always had... and I'm still trying to break it"* (Participant DD06).

Another example can be seen where a participant DD10 articulates negative and enduring feelings about herself:

> *"And it's true, I've never really have (liked myself)… I just don't like myself very much… I'd say it's the biggest cause of my depression actually*." (Participant DD10).

These are two strong examples of negative self-schemas as described by Beck's cognitive model. They also describe highly enduring and persistent sources of cognitive dissonance, in particular self-related dissonance (Aronson, 2004). It is in the self-related emphasis in dissonance theory that the connection with Beck's cognitive model is most apparent.

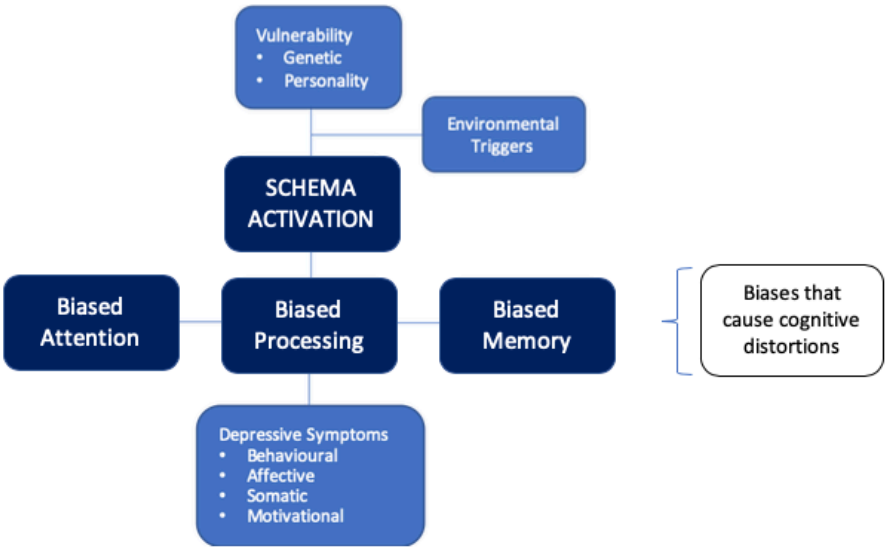

Figure 6.2: Beck's cognitive model of depression with biases implicated in cognitive distortion highlighted.

What is interesting is that not only do the negative self-schemas described in the above examples represent sources of dissonance, they also appear to be attempts by the participants to reduce or explain away the dissonance. In these cases, the negative self-schema can be framed in terms of dissonance reduction, specifically additional cognitions (mode 2). Both of the schemas mentioned above are an attempt to explain away the discomfort and the related negative emotions generated by the inner conflict experience. In both cases however, these dissonance-reduction attempts prove insufficient to resolve the conflict in the long-term. They appear to have a circular and self-defeating logic such as 'I am that way because that's the way I am'. This unrelenting and cyclical negativity is reminiscent of the process of rumination. This would most likely explain why the dissonance persists and indeed has persisted in each case for as long as was reported by the participants.

Considering that, according to Beck's cognitive theory, negative self-schemas are typical in depression cases, this finding raises an important point. Research has shown that a negative self-schema is an independent risk factor for the onset of depression (Evans, Heron, Lewis, Araya, & Wolke, 2005; Hammen, Marks, Mayol, & DeMayo, 1985). Understanding how negative self-schemas arise and how they contribute to depression could be furthered by considering them in the light of dissonance theory. By using dissonance theory as the basis of an intervention, it might be possible to address the cyclical nature of rumination more directly than it would by traditional means such as is the case with CBT.

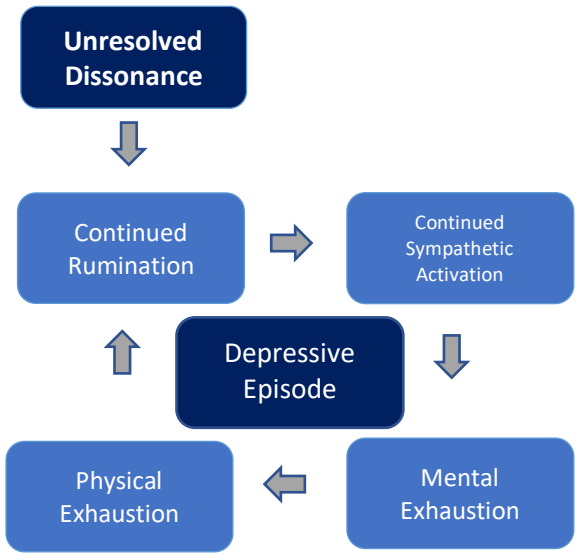

Figure 6.3: An illustration of the proposed cyclical nature of a depressive episode in terms of dissonance theory and stress theory (From Dissonance Depression Cycle Model).

6.2.3 People with depression may show lower cognitive flexibility (or creativity) in dissonance reduction efforts.

There were two core findings that suggest that the participants in the DD group were less flexible and perhaps less creative in the ways in which they sought to reduce dissonance. The first one was the substantial difference between the two groups in the number of additional cognitions (dissonance reduction mode 2) that were generated. It was found that there were nearly twice as many additional cognitions generated in the ND group than the DD group. It may be helpful to interpret his finding in the context of Section 5.2.4: (the integrated accounts) from the previous chapter. Participant ND09 described an experience of dissonance based on the conflict generated by not being in a position to pursue her dream profession. In an effort to reduce this dissonance, the participant recounts eight separate additional cognitions that each serve as an attempt to reduce the dissonance. The participant creates the impression that perhaps the multiple attempts secure successful dissonance reduction, even if this requires justifications that border on self-deception. Self-deception theory in psychology refers to a situation where an individual engages in rationalisation in order to perceive a negative situation optimistically (Johnston, 1988). The participant in this case describes the conflict as having been more or less resolved. However, the sheer number of additional cognitions suggests that the attempts are, in each of themselves, insufficient. It would appear that the conflict may require continuous attempts at reduction to keep the dissonance at bay. It is possible that the combined number of attempts rather than any of the individual attempts themselves might bring about effective dissonance resolution. This finding poses the question whether it is actually the participant's ability to generate more and more attempts that is blocking out the uncomfortable conflict and preventing her from dwelling on the dissonance. The participant's ability to continue to attempt to resolve the dissonance appears to precipitate a happy and optimistic outlook.

The second core finding is that dissonance reduction attempts made by the ND group were more varied than the DD group in general. The ND group reported more reduction attempts in three of the four reduction modes. All reduction modes apart from mode 4 (ignore or deny) were reported by the ND group in greater numbers than by the DD group. Again, this finding may be better understood by looking more closely at a specific case from the Integrated Accounts Section (5.2.4). For example, participant ND10 described a major source of dissonance in the regret she experienced from (what she perceived) as not being there for her mother when her mother was terminally ill. The participant describes engaging in a successful combination of all four reduction modes in her attempts to manage and reduce her dissonance. The use of a more varied

combination of reduction modes is indicative of a versatility in dissonance reduction that can be contrasted with the DD participant group.

These two findings, when taken together, demonstrate a qualitative superiority in the range and versatility in dissonance reduction demonstrated by the ND participant group. This difference is potentially illuminated by 'psychological flexibility theory'. Psychological flexibility refers to an individual's ability to shift mindsets and adapt to various situational demands (Runco, Pritzker, Pritzker, & Pritzker, 1999). It is an ability that is considered a fundamental aspect of mental health (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004). In many forms of psychopathology including depression, psychological flexibility has been shown to be absent (Kashdan & Rottenberg, 2010). Kashdan and Rottenberg (2010) have proposed the connection between psychological inflexibility and depression and cite the research on rumination by Nolen-Hoeksema, Wisco, and Lyubomirsky (2008) as an example of how this connection could be better understood. Kashdan and Rottenberg (2010) propose that a ruminative response style represents an inflexibility that hinders an individual's ability to relieve a depressed mood. Attempts have been made to address psychological inflexibility in a therapeutic context (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes, Strosahl, & Wilson, 2002). Acceptance and commitment therapy is a form of cognitive behavioural therapy that specifically targets psychological inflexibility (Zettle, 2005). Meta analyses investigating the effectiveness of acceptance and commitment therapy (ACT) has yielded mixed results. Powers, Vörding, and Emmelkamp (2009) found that ACT was no more effective than CBT and other traditional therapies in the treatment of depression. A-tjak, Davis, Morina, Powers, Smits, and Emmelkamp (2015) found that ACT had a similar treatment success for depression compared to CBT. It is possible that principles of dissonance arousal and reduction could provide a meaningful contribution to the therapeutic treatment of depression. The demonstration of greater cognitive flexibility in terms of dissonance reduction from several participants in the ND group lend further support to the possibility of integrating dissonance principles with therapeutic interventions. It is possible that principles of dissonance arousal and reduction could provide a meaningful contribution to the therapeutic treatment of depression.

6.2.4 Putting the results in perspective and what needs to be developed

This study has identified several potentially fruitful avenues of future research. It is important to note that qualitative research can often serve as an exploratory precursor to more rigorous quantitative-based research questions. The present study proposed a tentative dissonance model of depression that emphasises the cyclical nature of unresolved dissonance. As the model found to be supported by themes that emerged from the data, there are elements of the model that

could be more evaluated in future with more precision. For example, in terms of the finding related to stress and dissonance, it would be beneficial to explore this with the rigour of a stress scale. By measuring stress levels using a scale such as the Social Readjustment Scale (Holmes and Rahe, 1967), it may be possible to more accurately compare stress experiences between depressed and non-depressed groups.

A second opportunity for more precise comparisons to be made would be in terms of energy levels. Energy levels emerged from the data as a theme both in sense of physical energy and psychological motivation. These themes were analysed in terms of more general subthemes such as 'energising', or 'draining'. This presents an opportunity for future research to gain a more precise appreciation for the effect of dissonance on energy levels. This could be achieved perhaps through the use of a more targeted questionnaire profile, such as those used in the evaluation of burnout Maslach burnout inventory (Maslach, 1986).

There is also an opportunity to explore any potential relationship between exhaustion or burnout and cognitive performance. The third qualitative finding in the present study, (that the ND group demonstrated potentially more cognitive flexibility than the DD group) could be further explored in this respect. It is well documented that energy levels affect cognitive ability (Tanaka, Ishii, and Watanab, 2015). It would be certainly worth exploring with more precision whether this extends to effective dissonance management.

6.3 Implications for the Understanding of Depression and therapy

6.3.1 A Dissonance Depression Cycle Model

In chapter two (section 2.6) a model was tentatively proposed to describe how perpetuated unsuccessful dissonance resolution might ultimately manifest into a depressive episode. According to the proposed model, if an individual is unable to resolve an experience of dissonance, the discomfort will motivate the individual to continue to dwell upon the inner conflict. Initially this will lead to the continuation of efforts to reduce the dissonance, but if the process remains unsuccessful these efforts will increasingly become similar to rumination and a source of more upset. The model incorporates the cyclical nature of the process of rumination. The key issue is that dissonance reduction requires an energetic and effortful attempt. As mental tiredness creeps in, the decrease in energy hampers the individual's ability to break the dissonance cycle. The model combines multiple features from other theories of depression,

namely the aspects of the self (from congruity theory), cognition (Beck's cognitive model), and stress theory and burnout.

In terms of the self and congruity theory (Rogers, 1951) , the model incorporates important aspects of the negative affect-state that results from a dissonance experience. This is essentially why the dissonance experience is unpleasant and motivates an individual to reduce or resolve through engaging a mode of reduction. Dissonance is the result of an individual's positive sense of self being contradicted either through their behaviour or their thoughts. By incorporating Rogers's sense of self, it is possible to see to how an individual with depression would feel compelled to dwell in a negative ruminative cycle as it is their positive sense of self that is conflicted by the arousal of dissonance and potentially unsuccessful reduction attempts. There is an unfortunate paradox here where an individual with depression strives for an positive self-esteem but also is compelled to maintain a psychological consistency of a negative self-image.

The model incorporates elements of Beck's cognitive model of depression (1967) through the maintenance of a negative self-schema. Unsuccessful attempts at dissonance resolution potentially perpetuate the negative self-schema and continue the rumination cycle. Whereas a non-depressed person experiences dissonance when their positive self-schema is contradicted, an individual with depression perpetuates a negative self-schema because it is consistent with a negative sense of self.

The model also incorporates elements of stress theory and burnout. When dissonance continues unresolved, it represents a source of ongoing stress for the individual. When an individual is exposed to ongoing or chronic stress it creates a demand on the sympathetic nervous system. If that source of stress continues still it leads to a state of exhaustion (Selye, 1956; Ganzel, Morris, and Wethington, 2010) and burnout (Maslach, 1986).

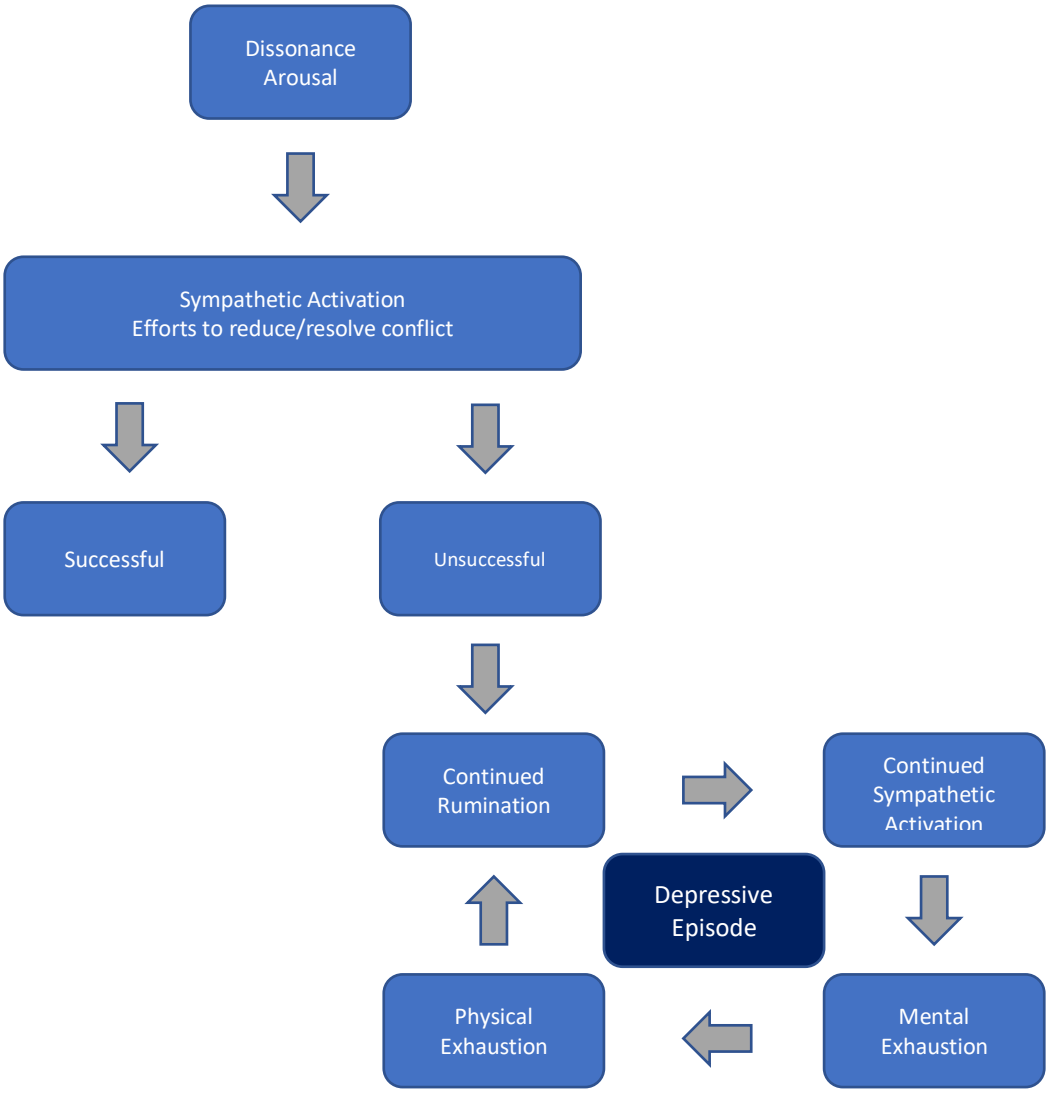

Figure 6.4: Dissonance model of depression showing the possible connection between unresolved dissonance and continued rumination.

The study's findings showed promising support for this dissonance model of depression. Many participants in the DD group indeed described experiences that provoked prolonged dissonance and ineffective dissonance reduction efforts. They also described continued rumination related to unresolved dissonance. Furthermore, several of the participants described low energy levels (mentally and physically) related to the issues they were battling with. The model is conceptually consistent with different perspectives of depression as outlined in the theoretical background in chapter two. It is a conceptual model that could potentially serve as the basis for more rigorous investigations based on quantitative data. The support for the model shown by the study's findings could potentially be strengthened in future development of the model for example by including assessment of energy levels.

Any future development of the proposed Depression Dissonance Cycle Model will need to further explore and refine the relevant dissonance variables, in particular the modes of dissonance reduction. The present study utilises the four dissonance reduction modes as proposed by the original theory (Festinger, 1957). However, as dissonance theory develops there are more precisions being identified for the theory. Once such development in terms of dissonance management is April McGrath (2017) who calls for the development of more specific dissonance reduction techniques. McGrath proposes seven different reduction modes rather than the four traditionally accepted. This is in effect a distinction or separation of multiple reduction modes that are usually grouped together. For example, in terms of the dissonance reduction modes used in the present study, 'reduction mode 1' involves the reduction of dissonance by changing either one's behaviour or cognition. McGrath proposes that these are in fact two distinct reduction modes and should be considered separately. Another example in the present study is 'reduction mode 4' which involves ignoring or denying the dissonant thought or behaviour. McGrath (2017) proposes again that these are two distinct reduction strategies that must be considered separately. Any future development of the Depression Dissonance Cycle Model proposed in the present study will have to further include precisions of the theory.

6.3.2 Implications for the treatment of depression and further research

Tryon and Misurell (2008) have suggested that dissonance theory has a potentially valuable contribution to make in the treatment of psychological disorders. The induction/reduction principle has been highlighted by them as a plausible explanatory mechanism in the efficacy of successful cognitive-behavioural techniques which, for the most part they argue, go generally unexplained. Specifically, the 'induction/reduction principle' in dissonance has been proposed as a basis for intervention in anxiety and depression (Tryon & Misurell, 2008) and in the treatment of eating disorders (Stice, Shaw, Burton, & Wade, 2006). In eating disorders dissonance is the result of reflections on one's own body image and often unrealistic ideal body image of extreme thinness. Dissonance based interventions focus on attempting to disqualify the adopted ideal body image and reinforcing eating behaviour as dissonance resolution rather than dissonance inducing factors. In dealing with depression perhaps the emphasis could be on addressing the rumination cycle and the loss of energy around it and ensuring that all successful avenues to reduce dissonance are incorporated in therapeutic process. Not just the rational ones. Perhaps denial, trivialisation and distorted or biased solutions to an inner conflict should be looked at in terms of their effectiveness in dissonance reduction and therefore enhanced peace of mind. This suggest a somewhat different emphasis from for instance cognitive behavioural therapy. The key

findings of the present study, specifically those related to the group differences in dissonance resolution represent a meaningful contribution to the understanding of depression. There is scope to apply this further in our efforts to further our understanding of effective therapeutic processes.

6.4 Strengths and Limitations

Although great care was taken in the design and execution of this investigation, there are several limitations to the study that must be addressed. The key limitations of the study concern the small sample size, the lack of psychometric data regarding the DiEL questionnaire, and the experimental nature of the hybrid methodological design.

The participant sample of the present study consisted of two groups of fifteen. Although it is a strength of the template analysis framework that it can be effective when used on relatively small samples sizes, the study is limited in generalisability of the comparisons made between the groups. Having said that, the comparisons made between the two groups were intended to be qualitative in nature and not assumed to be indicative of a quantitative comparison. Related to this is the fact that the efforts to match the groups in terms of gender, age and educational profile were not as successful as had been anticipated. Recruitment difficulties, commitments for interviews made on the one hand and broken on the other hand led to differences in composition between the two groups. While not trivial, statistical analysis showed that the impact of gender, age and education on the dissonance and depression variables was minimal and therefore that differences between the DD and ND groups could not be attributed to these three factors.

The second limitation concerns the use of the DiEL questionnaire. Although it is an instrument that is pragmatic and sensible, it is not a standardised assessment of dissonance experience. As such, there is no psychometric data currently available to support its efficacy. In defence of its use, it has to be said that there are no validated tools available at present to measure cognitive dissonance. Although dissonance theory continues to make valuable contributions to several areas including clinical psychology, the lack of an accepted standard measure of dissonance is a drawback of the field in general.

The third limitation concerns the methodological design. The present study combined elements of two concurrent mixed methods approaches to answer a relatively novel research question. As

a hybrid-design study, it does not have the support of an approach or design that is well-established in the literature. The legitimacy of the hybrid-design rests on the pragmatic research paradigm upon which the study is based.

There are also several strengths that may be acknowledged. These refer to the innovative nature of the conceptual basis of the study, its novel design, and the contribution of the findings of the study. Conceptually speaking, this study embraces the spirit of cross-pollination of separate areas of research in psychology. Dissonance theory is one of the most well-founded and explanatory powerful theories of human psychology. It has however remained largely within the realms of social psychology even though its potential contribution to areas such as clinical psychology could be invaluable. In their review, Draycott and Dabbs (1998) highlight the potential value that dissonance theory could have for clinical psychological therapies and practice. Despite the potential for applications of social research in clinical psychology, the integration of the two fields remains hindered (Folk et al., 2017). It is encouraging that there has been a degree of integration of dissonance theory in areas of mental health, such as the therapeutic intervention of eating disorders. This study is part of this effort to explore the relevance of the cognitive dissonance mechanisms in its application to important health and mental health issues.

Another strength of the present study is that it is the first of its kind that explores the relationship between dissonance theory and depression using a mixed methods approach. There are currently no other studies that venture to explore the thoughts and personal experiences of a depressed participant group in the context of dissonance theory. In the application of a template analysis framework, the present study has generated a detailed template that may be used in future research or even clinical interventions to guide and help navigate experiences of dissonance based inner conflicts. The template has shown that it can help provide a rich and structured account of individual experiences of dissonance. It is hoped that this template and the key findings of the study will ultimately serve to increase therapeutic effectiveness in the clinical domain, in particular in relation to depression.

6.5 Summary and conclusions

The main aim of the study was to investigate the relationship between depression and cognitive dissonance theory. The theoretical basis for this relationship was explored in terms of three perspectives of depression (congruence, cognitive theory, and stress and burnout). This

exploration yielded a tentative model that makes a case for how dissonance theory might be able to unify key aspects of these three perspectives. A novel study was designed to explore this relationship using a depression group and a healthy comparison group. The study created an analysis template that can be used to help generate detailed accounts of dissonance experiences in future research. The study's findings indicate that there are three potentially important conceptual differences in how dissonance is experienced in depression. These findings are discussed in the context of the relevant literature and also in terms of the implications they have for future research, clinical interventions, and education. Firstly, that depressed individuals may experience dissonance due more serious conflicts than non-depressed individuals. This finding is discussed in the context of stress theory. From a research perspective, this find has potential implications for the link between major stressful life events and the onset of clinical depression. From a clinical intervention perspective the stress of unresolved dissonance may potentially inform clinicians of a further dimension of the effect of major life-stress events. Secondly, that the negative self-schemas that are typical of depression may also be insufficient attempts at reducing the dissonance caused by the negative self-schemas themselves. This finding has implications in terms of research for further understanding depressive rumination by integrating dissonance theory with Beck's cognitive theory of depression. From a clinical perspective, this finding potentially offers further insight into how rumination in depression is perpetuated by unsuccessful dissonance management. And thirdly, that depression may affect an individual's cognitive flexibility which may, in turn, hamper that individual's ability to resolve dissonance. This may also contribute to continuing rumination. This findings has implications for further research of dissonance management in terms of cognitive flexibility as a means to alleviate depressive symptoms. From a clinical perspective this finding may serve as a potential basis for the generation of more successful dissonance management techniques. From an education perspective, this finding offers support for the benefits of cognitive flexibility. It may serve psychoeducation practices in the form of a potential psychological protection (or immunogen) against depression.

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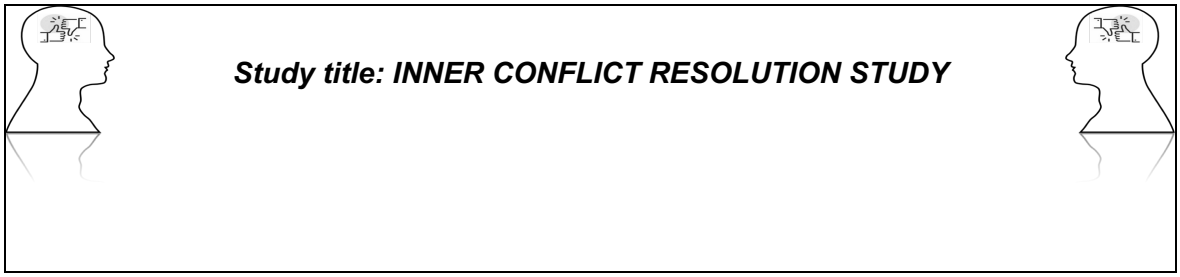
Appendices

Appendix 1

Patient Information Leaflet



Study title: INNER CONFLICT RESOLUTION STUDY

Principal investigator's name: Mr. Mark Byrne

Principal investigator's title: PHD Candidate, Trinity College Dublin

Telephone number of principal investigator: 085 735 3732

Consultant co-investigator's name: Dr. Malcolm Garland

Consultant co-investigator's title: Consultant Psychiatrist

You are being invited to take part in a clinical research study to be carried out at *HSE Dublin North Kilbarrack Health Centre.*

Before you decide whether or not you wish to take part, you should read the information provided below carefully and, if you wish, discuss it with your family, friends or GP (doctor). Take time to ask questions – don't feel rushed and don't feel under pressure to make a quick decision.

You should clearly understand the risks and benefits of taking part in this study so that you can make a decision that is right for you. This process is known as 'Informed Consent'.

You don't have to take part in this study. If you decide not to take part it won't affect your future medical care.

You can change your mind about taking part in the study any time you like. Even if the study has started, you can still opt out. You don't have to give us a reason. If

you do opt out, rest assured it won't affect the quality of treatment you get in the future.

Why is this study being done?

The study is on inner conflict, the kind that we all experience from time to time. It might occur, for example, when our behaviour does not meet up to our principles. The aim of the study is to understand how inner conflict affects people who experience depression. I believe that in order to learn about inner conflict in depression, we need to talk to people who have the experience. We are hoping that the findings will contribute to helping people who experience depression in the future.

Who is organising and funding this study?

This research is not funded. It is being arranged by me, Mark Byrne as part of my PhD studies with the School of Nursing and Midwifery, Trinity College Dublin.

Why am I being asked to take part?

I am interested in what you have to say as a person who has been diagnosed with depression and is currently under the care of Dr Malcolm Garland.

How will the study be carried out?

The study will involve arranging a convenient time to meet for 1 hour. During this time you will be asked to complete two questionnaires and to have an interview. The interview will be more of a chat and there are no right or wrong answers to anything you will be asked.

What will happen to me if I agree to take part?

If you agree to participate you will be asked to fill out two questionnaires. You will also be asked to reflect on your own personal episodes of inner conflict and how you experienced them and attempted to resolve them.

What other treatments are available to me?

Participation in entirely voluntary and you may withdraw at any time.

What are the benefits?

By participating in this study you will be contributing to research that may increase our knowledge of depression and help develop more effective treatments for depression in the future.

Also, people who have participated in this study already have found it beneficial to reflect upon and share their experiences.

What are the risks?

The interviews will be conducted with sensitivity to avoid any risk of distress. You will only be asked to talk about experiences that you feel comfortable discussing.

What if something goes wrong when I'm taking part in this study?

The interview is designed to minimise the risk of becoming upset or distressed. You will only be asked to discuss things that you feel comfortable talking about. If you do you become distressed during the interview, the interview will be stopped immediately. I will inform the supervisor of your care (Dr Malcolm Garland).

Will it cost me anything to take part?

As this is an unfunded research study, participants will not be reimbursed for travel expenses.

Is the study confidential?

At no stage will your name appear on any written report or notes, as pseudonyms will be used. Your anonymity and confidentiality will be strictly protected.

Where can I get further information?

If you have any further questions about the study or if you want to opt out of the study, you can rest assured it won't affect the quality of treatment you get in the future.

If you need any further information now or at any time in the future, please contact:

Name: Mark Byrne
Address: School of Nursing and Midwifery, Trinity College Dublin, D'Olier St; Dublin 2
Phone No: 085 735 3732

Appendix 2

Patient Consent Form

Study title: INNER CONFLICT RESOLUTION STUDY

*I have read and understood the **Information Leaflet** about this research project. The information has been fully explained to me and I have been able to ask questions, all of which have been answered to my satisfaction.*	***Yes ☐***	***No ☐***
I understand that I don't have to take part in this study and that I can opt out at any time. I understand that I don't have to give a reason for opting out and I understand that opting out won't affect my future medical care.	***Yes ☐***	***No ☐***
I am aware of the potential risks of this research study.	***Yes ☐***	***No ☐***
I have been given a copy of the Information Leaflet and this completed consent form for my records.	***Yes ☐***	***No ☐***
Storage and future use of information: *I give my permission for information collected about me to be stored or electronically processed for the purpose of scientific research and to be used in related studies or other studies in the future but only if the research is approved by a Research Ethics Committee.*	***Yes ☐***	***No ☐***

| | |

Patient Name (Block Capitals) | *Patient Signature* | *Date*

To be completed by the Principal Investigator or nominee.

I, the undersigned, have taken the time to fully explain to the above patient the nature and purpose of this study in a way that they could understand. I have explained the risks involved as well as the possible benefits. I have invited them to ask questions on any aspect of the study that concerned them.

Name (Block Capitals)	*Qualifications*	*Signature*	*Date*

3 copies to be made: 1 for patient, 1 for PI and 1 for hospital records.

Appendix 3

Preparation for interview

Introduce myself-"Hello (name), I'm Mark Byrne. Would you like to take a seat here". Engage in casual conversation and try to put the participant at ease.

When participant feels relaxed, begin with a brief description of the aim and objectives of the study, make the participant aware of confidentiality and when there would be a need to breech confidentiality.

Identify strategies in consultation with participant on what they would like to do if he/she found the conversation too difficult

Explain that you may take some notes as well as taping the conversation so that you can really listen to what is being said and that you don't miss out on anything they are saying that will help you to understand their experience

Make the participant aware that there are no right or wrong answers and that the reason for undertaking the study is to gain a better insight of the inner conflict

Length of interview will be dependent on their participation

I'd like to talk about a time when you were frustrated about something. In particular, I'm interested in times when you felt conflicted about something. Perhaps there was a time when your ***behaviour contradicted your principles***?

Main Interview Questions:

Tell me about this episode…

How did it begin?

What was it about this episode that bothered you?

How did it make you feel?

How would you describe the level of intensity that feeling?

How long would this feeling last?

Can you tell me if it affected your energy levels?

How so?

How did you cope/get past with the feelings that this experience caused?

How did you attempt to resolve this conflict?

Were you successful?

Did you have to try different ways to resolve this conflict?

Closure

Is there anything else you would like to tell me?

What are your initial thoughts about the interview?

Debrief participant from interview and focus on positive strengths identified during the interview

Assess whether participant needs to be seen by the Clinician or therapist

Thanks

"Thank you very much for sharing your experience with me, you have given me a great understanding of your personal experience. I value and appreciate very much what you have shared".

Appendix 4

Participant 1010 (Sarah)

Theme Sub-theme	Participant Quotes: 1010/2
Dissonance conflict	*"He went on massive spending sprees. I asked my dad to buy me a flat, if he could. Because I was never going to be able to take out a mortgage, but he spent every penny on alcohol. Now myself and my daughter, it's not looking good for us. I don't know where we're going to end up next year because we're running out of money. He could have bought us somewhere small, but he went off and drank the money instead. I don't know if that was his illness, maybe he was so alcoholic at that point that all he could think about was his alcohol but I can't believe that a father would do that to his daughter! He knew I had a disability. I just can't understand that!* *"the difficult part with my dad was that he would never ever own up to what he was doing. Like, he had lots of affairs while he was married to my mother. He denied everything. When he met another women and left my mother for her, he denied her existence until a girlfriend of my mother's told my mother. He wouldn't even say it to her after thirty years of marriage. Such a chicken. He's always ducking and diving. And that's what really makes me angry about my dad, he just won't be a man about it and be honest. And I get very angry about that. Very".*
Duration	Enduring *My dad would be a major one. I can get angry about him for about five or six hours because the difficult part with my dad was that he would never ever own up to what he was doing.* *But he terrorised our family for years.*
Energy levels	Physical Draining Psychological Draining *Sometimes when the depression gets very, very severe I don't seem to be thinking about anything. I just seem to be black. Everything just shuts down and I lie on the bed and I'm just shut down.*
Impact	Significant *But he terrorised our family for years. He terrorised us. I think that's why I'm afraid to leave the apartment.*
Intensity	Major *But he terrorised our family for years. He terrorised us. I think that's why I'm afraid to leave the apartment.*
Rumination	Depressive rumination Ruminative Dissonance

	I think about that a lot in the apartment.
Reduction modes	- Resolution style Add new cog. *My mother would continually say that he was a very sick man. My mother would continually say that he was a very sick man. But I don't go around hitting people and I have a mental illness.* *All of us wondered, how much of this is his personality and how much of this is his illness? Because he has a very dominant personality.*
Reduction success Successful (long term) Successful (Short term) Unsuccessful	Unsuccessful *I have a huge conflict about my relationship with my dad. Huge. I don't feel that he behaved protectively towards his children and his wife. How much of it was the illness? I don't know. But I suspect that a lot of it was just him.*
Unresolved dissonance	Unsuccessful attempt Note: Participant did not appear to be able to rationalise her father's apparent appalling behaviour. *My mother would continually say that he was a very sick man. My mother would continually say that he was a very sick man. But I don't go around hitting people and I have a mental illness.*

Appendix 5

Participant DD14 (Mary)

Theme **Sub-theme**	**Participant Quotes: 1014/1**
Dissonance conflict Feeling specified	Feeling specified *My inner critic gives me quite a bashing on a daily basis. It reminds me to watch my twitches, to watch my behaviours, although they are a thing of the past now and I'm controlling them as best I can. Don't look down, that's another behaviour pattern I have, looking down on the ground. And don't give yourself away. Feeling like I'm the village idiot. Not participating more in the community because I shy away from that because they know my business and they know my past and they know that I have depression. It's difficult when you've been, not intentionally, but that's what happens with life.* *If the critic would stop beating me up a little bit and give me a little bit of head space, I could be a more aware.*
Duration	Enduring *I've had behavioural problems since I was a child anyway so, as soon as I tried to stop and correct them and be a normal person in the normal/ordinary world it was hard for me because the inner critic was always right and it was always saying 'that's wrong, you've got to behave more normally now, you've had your fun, the fun's over', that type of thing.*
Energy levels	Not specified
Impact	Significant Because of that (inner critic) I've developed hearing voices, experienced since a young age.
Intensity	Major *Sometimes it's just overwhelming that you just shut down and not even one little word, not even a letter will come out. It just gets all stuck up in the head and a sentence won't even rise.*
Rumination	Depressive rumination Ruminative Dissonance *So, yeah, the critic can cause a lot of thinking. You can doing a lot of over-thinking and to even nearly analysing those thoughts and getting stuck on thoughts, just thinking and thinking and thinking… All the time. And not doing or being or being active. And then you get so exhausted from all the thinking and the battering that the inner critic can give you that you just have to stop and go to bed or lie down. Then sometimes you lose your appetite as well.* *I think I definitely had, I've had it with rumination to be honest because I've had it so much in my life. It definitely has played a huge*

	role in my diagnosis of depression. It's made me depressed. It's made me beyond depressed. *And it is a hard cycle to break. But perseverance is the word that comes to mind. Persevere with it. It'll ruin a life, rumination can just take over, Take over first thing in the morning.* *I don't know. It's quite self-absorbing, rumination. It feels like it's quite a selfish thing. In my personal experience I just feel that I'm very selfish because I ruminate all the time yet when it's part and parcel with depression it can be. Any of us can ruminate at any given time in our lives.*
Reduction modes	- Resolution style Add new cog. *Inner critic has its good intentions but its methods are not so good.* Resolution style Add new cog. *You live in hope, you constantly live in hope that the critic won't give you a hard time too much regarding the way you get dressed, the way you eat your breakfast, the way you have conversations with people, the way you crack a joke, the way you talk to people, the way you say hello on the street, the way you are, who you are is constantly being criticised or judged or corrected because I got it wrong so many times over the years I've got to make up for all those years, with or without the critic I've got to get it right now.* Ignore or deny - Resolution style *meditation plays a reasonably big part of my life. Without it I couldn't really relax or get out of the house or get out of bed.* *It can get quite 'heady'. So I like to keep the body moving and I like to get my awareness into my feet.* *Take over first thing in the morning. You can go out for a walk and you can come home feeling a bit more revived and refreshed because you got out and got some fresh air and you've got the body active and the body plays a big part in depression as well.* *It's step by step. It's one or two physical walks a day for thirty minutes, if you can.* *It's looking after your personal hygiene, having a nice hot shower. It's putting a bit of make up on if you're not a makeup person, if you're female. It's getting your hair done. It's remembering others too. It's compassion. I don't know. It's quite self-absorbing, rumination. It feels like it's quite a selfish thing. In my personal experience I just feel that I'm very selfish because I ruminate all the time yet when it's part and parcel with depression it can be. Any of us can ruminate at any given time in our lives.*
Reduction success	Successful (Short term) *It eased off for a while but it is back now.*
Unresolved dissonance	Unsuccessful attempt *It eased off for a while but it is back now.*

Appendix 6

Participant ND10 (Lisa)

Theme Sub-theme	Participant Quotes: ND10/1
Dissonance conflict	*I felt really bad when my Mum was sick because she went into the hospital so much on her own because I was scared to go in. So I didn't want to go because I don't like hospitals.* *And once I had gone in I had wished that I had gone in two years before that. But I never really had the guts to go in and muster up the courage and go in there.* *In the beginning is when she needed me more because she wouldn't talk to anybody at the beginning.* *(Felt) nearly selfish for not going in and leaving her to go alone because I was scared to go in.* *It was nearly guilt. I didn't really feel bad when it was happening because I didn't realise it was going to be bad but then after, it was like a pit in your stomach and guilt thinking that I should have been there for that person. After, and then it's nearly too late. I pushed the feeling down because you can't change anything now. So there's no point in feeling bad about this but when it happened I was like 'O God, I feel really bad!'*
Duration	Enduring No particular reference to a time-frame. But presumably enduring. This was not fleeting or short-lived.
Energy levels Physical Draining Psychological Energising	*I remember when my Mum died first and it was awful I wasn't diagnosed as depressed but there days when I literally just couldn't function… there were days where I didn't want to get out of bed. There were days when I wasn't sleeping and the problem is that you don't get to sleep until three o'clock in the morning and then you sleep in until twelve and then next night you don't get to sleep until three o'clock in the morning and it's the same thing over and over and over again and you can't stop thinking about certain things. You think 'if I had done that thing differently, would this have changed'? Or if this person had have done this thing differently, would it be different? That kind of thing.*
Impact	Significant *It nearly made me a better person. I was nearly there for people more because I don't want to feel that again because that was not nice.*

	After everything happened our family came together so much more after Mum died because we knew that we have to there for each other now, through this, rather than pushing apart and not being close. We weren't a close family before Mum died and I spent a lot of time with Mum outside the hospital.
Intensity	Major *It made me feel really, really guilty*
Rumination Depressive rumination Ruminative Dissonance	Ruminative Dissonance *… and you can't stop thinking about certain things. You think 'if I had done that thing differently, would this have changed'? Or if this person had have done this thing differently, would it be different? That kind of thing.*
Reduction modes Change beh. or cog. Add new cog. Reduce the importance Ignore or deny Unsure/miscellaneous - Specific example - Resolution style	Add new cog. - Resolution style *obviously nobody likes hospitals but I was terrified to see that whole situation so I never went in.* *So that's when she needed me in there more with her but I didn't want to go, because I was terrified. I was seventeen or eighteen and I was absolutely terrified of going into the hospital and seeing my Mum hooked up to a drip with chemo going into her (or whatever it's called), the drugs going into her that would make it real in my mind.* *but that's the way it was made out so I was kind of like thinking that I wasn't needed there, so there's no point in me going in. After, and then it's nearly too late. I pushed the feeling down because you can't change anything now. So there's no point in feeling bad about this but when it happened I was like 'O God, I feel really bad!'* *It nearly made me a better person. I was nearly there for people more because I don't want to feel that again because that was not nice… For me anyway, because I was don't want this feeling again and the best way to not have that feeling again is to change it. You can't change the way you're doing things, you can't keep doing the same thing and expect different results.* - Specific example Change beh. or cog. *I went in once and I was delighted that I went in once.* - Resolution style Change beh. or cog. *Well, you feel bad because you're doing the wrong thing. I felt guilty because I was doing the wrong thing. So doing the right thing makes you feel good.. helping people and that, even doing the tiniest of things for people can help you avoid that*

	feeling. Contributing, feeling like you're actually doing something. That's partly to avoid feeling 'a bad feeling'. But also to get a sense of fulfilment out of it, to feel like you're actually doing something.. - Specific example - Resolution style Reduce the importance *in my mind, I didn't think that my Mum was going to die or anything, so I thought that it didn't really matter that much.* Ignore or deny - Specific example *That's exactly what I was doing, I was just completely avoiding it and just not wanting to go in, and just thinking that if I don't go in then this isn't real.*
Reduction success Successful (long term) Successful (Short term) Unsuccessful	Successful (Short term) - Resolution Style Add new cog. *obviously nobody likes hospitals but I was terrified to see that whole situation so I never went in… the drugs going into her that would make it real in my mind.* *but that's the way it was made out so I was kind of like thinking that I wasn't needed there, so there's no point in me going in.* Successful (long term) - Specific example Change beh. or cog. *I went in once and I was delighted that I went in once.* Successful (long term) - Resolution style Change beh. or cog. *Well, you feel bad because you're doing the wrong thing. I felt guilty because I was doing the wrong thing. So doing the right thing makes you feel good.. helping people and that, even doing the tiniest of things for people can help you avoid that feeling.* Successful (Short term) - Specific example - Resolution style Reduce the importance *in my mind, I didn't think that my Mum was going to die or anything, so I thought that it didn't really matter that much.*

	Successful (Short term) Ignore or deny - Specific example *That's exactly what I was doing, I was just completely avoiding it and just not wanting to go in, and just thinking that if I don't go in then this isn't real.*
Unresolved dissonance Unsuccessful attempt No attempt made	Apparently no unresolved dissonance.

Appendix 7

Participant ND09 (Emma)

Theme Sub-theme	Participant Quotes: ND09/1
Dissonance conflict	*I've always wanted to be a vet and then I realised and started focussing on all the subjects that you needed to be a vet and realised that I couldn't grasp my head around Maths or chemistry that were the two main things* (Interviewer): Do you feel hard done by? *Slightly when I see people I know becoming vets and living the dream that I always wanted when I was younger*
Duration	Enduring Short-lived Unsure if enduring or short-lived. On the one hand the participant had always wanted to be a vet and would have experienced quite strong dissonance when she realised that she might not be able to qualify for the course (on account of not being proficient at the necessary subjects). *When I was doing the leaving cert I was very, very stressed and put a lot of pressure on myself to do the best that I can, I wanted to be a vet but it was a hundred points more than I could ever get. So I put a lot of stress and pressure on myself to get those points and I wouldn't leave the house some days. I would literally spend the whole day just studying. But it would be a most unproductive time. Because I'd be so stressed that I'd have to learn all this* The participant refers to quite a brief experience when it comes to the actual dissonance: *and then I realised half-way through sixth year (secondary school) that I didn't really care, if I didn't get it, it wasn't meant to be.*
Energy levels	Physical Not specified – Did not appear to affect her energy levels Psychological Energising The sheer number of examples generated as to why the participant is happy not to have what she wanted. *I don't mind that, and, no, I don't think so. I think I'm really happy with becoming a teacher.*

Impact	Significant The dissonance arguably had a significant impact on the participant as it changed her whole career trajectory.
Intensity	Not specified The sheer number of added cognitions suggests that this is quite intensely uncomfortable.
Rumination Depressive rumination Ruminative Dissonance	
Reduction modes - Specific example - Resolution style Change beh. or cog. Add new cog. Reduce the importance Ignore or deny Unsure/miscellaneous	- Specific example Add new cog. *So I decided that I would have a little sit down with myself and say 'It's ok if you don't get it, you still love the animals bit try and make a more manageable goal, rather than killing yourself over something that you probably won't get, and possibly hurt yourself not getting it.* *So that's when I chose to do teaching. To help others reach their goals and help them be better.* *Not so much that I didn't want to be a vet. I just realised that I'm, not lazy but, I wouldn't be able to make into UCD (University College Dublin) every morning so that would be a main part of the education and be very important.* *So I realised my own personal potential, I was just being realistic about it* *it probably wasn't the best idea for me because I would get too upset when any animal was sick so then* *…with children, you can always help them bring themselves up and even if you're feeling sad which happened one or two days in placement, dealing with children, helping them be happy throughout the day always makes yourself feel better. And helps yourself feel better about everything.* *but I take care of my own dog, so I'm basically a mini vet in my own house so I don't mind that, and, no, I don't think so.* *I think I'm really happy with becoming a teacher. I really enjoy it much more than I thought I would, thank God.*

	And if I decided that I really, really, wanted to help the animals that I can always go to Dog's Trust, and help ponies and cats down there. So, the best of both worlds I feel. - Specific example Reduce the importance *and then I realised half-way through sixth year (secondary school) that I didn't really care, if I didn't get it, it wasn't meant to be.*
Reduction success Successful (long term) Successful (Short term) Unsuccessful	(Interviewer): Do you feel hard done by? *Slightly when I see people I know becoming vets and living the dream that I always wanted when I was younger but I take care of my own dog, so I'm basically a mini vet in my own house so I don't mind that, and, no, I don't think so.*
Unresolved dissonance Unsuccessful attempt No attempt made	Unsuccessful attempt Potentially unresolved dissonance despite the numerous attempts. This is however conjecture and the researcher's perception. The participant has reported "no, I don't think so" in response to whether she still experiences dissonance.