VALUE PRIORITIES OF PEOPLE WITH MENTAL HEALTH PROBLEMS AND THE RELATIONSHIP BETWEEN VALUE DISCREPANCIES AND DISTRESS

by

Rachel Parsons

Clinical Supervisor: Dr Andrew Vidgen
Academic Supervisor: Dr Andrew Vidgen and Professor Greg Maio

2013

Thesis submitted is partial fulfilment of the requirement for the degree of Doctor of Clinical Psychology at the University of Wales, Cardiff and South Wales Doctoral Course in Clinical Psychology

ACKNOWLEDGEMENTS:

First and foremost, I would like to thank the participants who gave their time to complete this piece of research. I could not have done it without them! I am so grateful to those who took the time to fill out my questionnaires.

Thank you to all the clinical psychologists in Cardiff and Vale and Aneurin Bevan LHB who helped me to recruit participants and for supporting my research. I would also like to thank two charities (Beat and AnxietyUk) for advertising my research and for taking such an interest in my study.

I would also like to thank my supervisors, Dr Andrew Vidgen and Professor Greg Maio for your support, constant positivity and most of all patience! I learned such a great deal from you both and you were a constant source of inspiration!

I would also like to thank my placement supervisors Dr Emily Hazell and Dr Sarah Flowers for your support, patience and understanding. Thank you for being so flexible with placement!

To my cohort, you're the only ones who know how this feels, and your empathy has been invaluable through a long and demanding journey. I am proud of how we've supported one another through this process.

To my friends and family, thank you for your support and constant encouraging text messages to spur me on!

Most of all, thank you to my partner Geraint for all your support and encouragement – I could have not done it without you! You went above and beyond your duty as my partner! I owe you in cooking and cleaning duties for the next year I think! Thank you for staying positive at all times and not allowing me to give up!

ABSTRACT

Introduction: Values have a strong tradition in social psychology, but until recently they have been largely neglected in mental health literature. More recently, the importance of values has been recognised by some psychological therapies (e.g. Acceptance and Commitment Therapy); however, the relative importance of values in mental health problems has not been empirically tested.

Aims: The current research aimed to investigate the value priorities of people with anxiety and eating disorders, and to assess the relationship between value discrepancies and distress, and in doing so to draw upon Schwartz's (1992) model of values and Higgins's (1987) self-discrepancy theory. More specifically, it investigated whether people with anxiety and eating disorders differ from people without mental health problems in the values that they hold, and the level of value discrepancies in these values, and additionally whether these discrepancies were associated with anxiety and depression.

Methods: A cross-sectional questionnaire-based design was employed, with data being collected from 122 participants (an anxiety disorder group, n=30; eating disorder group, n=31; and reference group n=61). Multivariate statistics, paired sample t-tests and Pearson's correlations were used to test the hypotheses. All participants completed a measure assessing values and discrepancies in values (adapted PVQ), and the mental health groups also completed a measure assessing psychological distress (HADS).

Results: The reference group rated particular values (e.g. self-direction, stimulation, hedonism) as more important than did the mental health groups, apart from the achievement value, which the eating disorders group rated as more important. The mental health groups had higher value discrepancies than the reference group. Actual-Ideal and Actual-Ought value discrepancies were found to be related to anxiety and depression. However, unexpectedly, depression was found not to be specifically associated with Actual-Ideal discrepancies and anxiety was found not to be specifically associated with Actual-Ought discrepancies.

Conclusions: This study provides empirical support and evidence for considering the values that people with mental health problems hold and the role that values has in relation to the psychological distress experienced by people. The results are discussed with reference to existing literature and the strength and limitations of the research were outlined. In addition, the clinical limitations were discussed and ideas for future research were outlined.

TABLE OF CONTENTS

Chapter Two: Methods

Chapter Three: Results

Chapter Four: Discussion

List of Figures

List of Tables

List of Appendices

CHAPTER 1 – INTRODUCTION

1.1 THESIS OVERVIEW

Chapter one introduces key aspects of the research project. It will start by providing an introduction to values and discussing how they have been conceptualised and operationalised over the years, moving onto to how values are activated cognitively in order to motivate behaviour. It will then move on to present an argument for looking at values in relation to specific mental health problems (e.g. anxiety and eating disorders), and highlight the possible ways in which values could cause psychological distress. Higgins's (1987) model of self-discrepancies will then be presented as a model and methodology for investigating the relationship between discrepancies in values and the psychological distress experienced in mental health problems. A systematic review of studies investigating Higgins's (1987) model of self-discrepancies in relation to mental health disorders will then be presented to demonstrate the utility of this methodology for the current study. The chapter finishes by outlining the hypotheses for the research.

The methods chapter, chapter two, will then introduce the procedures used to complete the research, including what measures were used and how the sample were recruited. In chapter three, the results are presented firstly as descriptive statistics and secondly as inferential statistics in relation to each hypothesis. Finally, chapter four concludes with a critical evaluation, as the implications of the results are considered.

In this chapter the results are discussed in relation to the existing literature, clinical practice, future research and limitations of the current research.

1.2 INTRODUCTION TO THE STUDY

Values have been referenced in many psychological theories; for example the Beck *et al*. (1979) clinical theory of depression and the Johnson-Laird and Oatley (1992) social theory of emotion posit that emotional experience is connected to values and perceived failures to live up to them. In addition, the importance and role of values has long been recognised in the field of social psychology; for example in theories of individual differences in goals and personality (Gouzet *et al.,* 2005); pro-social behaviour (Schwartz, 1997); moral reasoning, moral development and decision making (Kristiansen & Hotte 1997; Rohan & Zanna, 1997; Tanner *et al.*, 2008); self-affirmation theory (Steele, 1988); terror management theory (Greenberg *et al.,* 1997) and value-plurism model (Tetlock *et al,* 1997*).* In addition, they have been central to value-based theories of prejudice (Katz & Hass, 1988; Pratto *et al.*, 1994; Sears, 1988), prosocial behaviour (Schwartz, 1977) and attitude ambivalence (Katz & Hass, 1988). However, the one area that values have not been sufficiently researched is in relation to mental health problems.

This research aims to explore the role of values priorities of people with mental health problems and the relationship between value discrepancies and distress, by drawing from Schwartz (1992) model of values and Higgins (1987) self-discrepancy model. Values have been defined as relatively stable guiding principles in people's lives which

exist across contexts and times (Rokeach, 1973; Schwartz, 1997), which can in turn affect people's perceptions, attitudes and behaviour (Rokeach, 1973; Schwartz, 1992).

In this chapter an argument will be put forward for the current study, by first providing an introduction to values and discussing how they have been conceptualised, operationalised and empirically tested with non-clinical populations, paying particular attention to Schwartz's (1992) model of values. The conditions under which values are activated cognitively will then be outlined. In doing this, the various ways in which values can act as powerful motivators for behaviour will be emphasised, and so an argument will be made for the motivational influence values could have within particular mental health problems such as anxiety and eating disorders, and subsequently the impact values could have on psychological distress. The various psychological therapies (especially Acceptance and Commitment Therapy; Hayes *et al.,* 2003) that have recognised this important link (but have not tested the relative importance of values in a mental health population) will be highlighted.

Higgins (1987) theory of self-discrepancies will then be put forward as a model and methodology for the current study to investigate this link. A systematic review on the evidence base to date in relation to the role self-discrepancies play in the psychological distress experienced by people with mental health problems will be presented. However, the systematic review has been done in relation to self-discrepancies between domains of the self and not values, as this research has yet to be done with people with mental health disorders. The chapter will then conclude with

outlining the research questions and hypotheses to be tested alongside the clinical and theoretical relevance of this study.

In summary, the current study aims to test its hypotheses by drawing from and bringing together Schwartz's model of values and Higgins's model of self-discrepancies to further understand the relationship between values, value discrepancies and psychological distress experienced by people with mental health problems. To do this, the project will aim to investigate whether values are different across mental health problems (e.g. anxiety and eating disorders) and are different to people without mental health problems, whether discrepancies between values are related to psychological distress, and whether there is a difference in this between the mental health groups and reference group.

The study has the additional aim of assessing Schwartz's model of values on samples of people with mental health problems. Moreover, this project will be piloting an adapted version of the Portrait Value Questionnaire (PVQ) to include Higgins's model of self-discrepancies.

1.3 CONCEPTUALISING AND OPERATIONALISING VALUES

1.3.1 Overview

This section will aim to provide an introduction to values and to discuss how they have been historically conceptualised, operationalised and tested empirically. To illustrate

how this has been done, this section will be organized into the following sections: origins of values; defining values; the role of values; describing and differentiating between values; measuring and assessing values and mental representations of values with the main aim being to demonstrate the reasons why Schwartz's model of values has been utilized in the current study.

1.3.2 Origins and development of values

It has been argued by many social psychologists (e.g. Kluckhohn, 1951; Meglino & Ravlin, 1998; Rokeach, 1973; Schwartz, 1992) that values develop as a joint product of an individual's needs (Calogero *et al.,* 2009), traits (Knafo *et al.,* 2008), temperament (Kohn & Schooler, 1982), culture (Roccas *et al.,* 2002), socialization (Schwartz, 2004), and personal experiences, (Verkasalo *et al.*, 2006).

1.3.3. Defining values

Values have been defined as 'guiding principles' in people's lives which exists across contexts and times (Rokeach, 1973; Schwartz, 1997). They have also been considered to be among people's most important evaluative beliefs (Feather, 1990; Rokeach, 1973; Schwartz, 1992; Seligman & Katz, 1996).

1.3.4 The role of values

Values are thought to convey what is important in a person's life (e.g. achievement and security), and it seems that people will often attach great worth to their values and

will vigorously defend them if challenged (Maio & Olson, 1998). Furthermore, people will often draw on their values when considering a variety of important personal and social issues such as child rearing, criminal punishment, health care, education and social welfare (Maio & Olson, 1998), and as Pakizeh *et al.* (2007) succinctly argues:

> *People rely on their values by using them implicitly or explicitly to determine their future directions and to justify their past actions, compare themselves with others, praise or blame themselves or others, take certain actions over others and to rationalise their attitudes and behaviour* (p.458).

Values have also been argued to be among the most important predictors of behaviour and attitudes (Bardi & Schwartz, 2003; Maio & Olson, 1995; Rokeach, 1973) and they serve as motivators, similar to needs (Schwartz, 2004). Moreover, values have been found to be ordered in a personal hierarchy of importance (i.e. people's value priorities), and the location of a value in that hierarchy determining perception and behaviour (e.g., Rokeach, 1973; Schwartz, 1992). The next section will further discuss value priorities in relation to particular models of values.

1.3.5 Describing and differentiating between values

Allport *et al*., (1960), described six main values: social, theoretical, economic, aesthetic, political and religious, which he conceptualised as a kind of future activity that people may wish to perform; for example, social values entail helping people and involve occupations such as social work and theoretical values involve the search for

truth and involve occupations such as scientific study. Thus, although Allport's model was very useful for enhancing occupational understanding of vocational choice (Kopelman *et al.,* 2003), Rokeach (1973) criticised his work for describing values as 'likes and dislikes' and argued that values are instead more akin to idealised standards with an "ought" characteristic. In addition, Rokeach (1973) argued that differences in value importance are more psychologically meaningful than the importance of any single value considered on its own. For example, he noted that most people say that equality is important, but what matters is whether they view equality as being more or less important than other values such as freedom.

To support this criticism, Rokeach (1973) offered an alternative list of 36 values which are meant to be ranked in order of their importance by selecting the most and least important values from the list. Rokeach (1973) also distinguished between our *central* values and our *peripheral* values. Thus, our central values were considered to be more closely connected to our 'core self' and act as an internal standard, and are therefore ranked uppermost in importance in an individual's value priorities. Conversely, our peripheral values are ranked lower in importance and are also not as closely connected to our core self, but more closely connected to the values that are widely shared with other people in the individual's culture. Thus, relatively few values are said to become central to individual's self-concept over time, while other values remain peripheral, and an individual's cognitions and behaviours are guided more by their central values than their peripheral values (Rokeach, 1973; Verplanken & Holland, 2001). In addition, central values are said to act more strongly as ideals and peripheral values as oughts (Rokeach, 1973; Rees & Maio, 2009).

In summary, Allport and Rokeach's model is useful in defining and differentiating between values; however, these models fail to talk about how values relate to each other. The Schwartz (1992) model of values aims to tackle this by using a circular model of 10 values (see Figure 1.1 & table I.1), According to this model, values are self-imposed criteria that help people to maintain a delicate balance between basic motives that arise from our individual needs and as members of larger social groups.

Schwartz proposed that these motives can be organised along two dimensions. One dimension comprises of values that promote the self at one end (e.g. *self-enhancement* including values that promote achievement and power) and values that that transcend personal interests to consider the welfare of others at the opposite end *(e.g. self-transcendence*, including values that promote benevolence and universalism). Orthogonal to this dimension is the second dimension which comprises of values at one end that serve to follow the status quo *(e.g. the conservation quadrant* includes values that promote tradition, conformity and security) and at the opposite end the values serve to pursue personal intellectual and emotional interests in uncertain directions (e.g. the *openness quadrant* includes values that promote self-direction and stimulation).

Figure 1.1: Schwartz's (1992) circular model of values

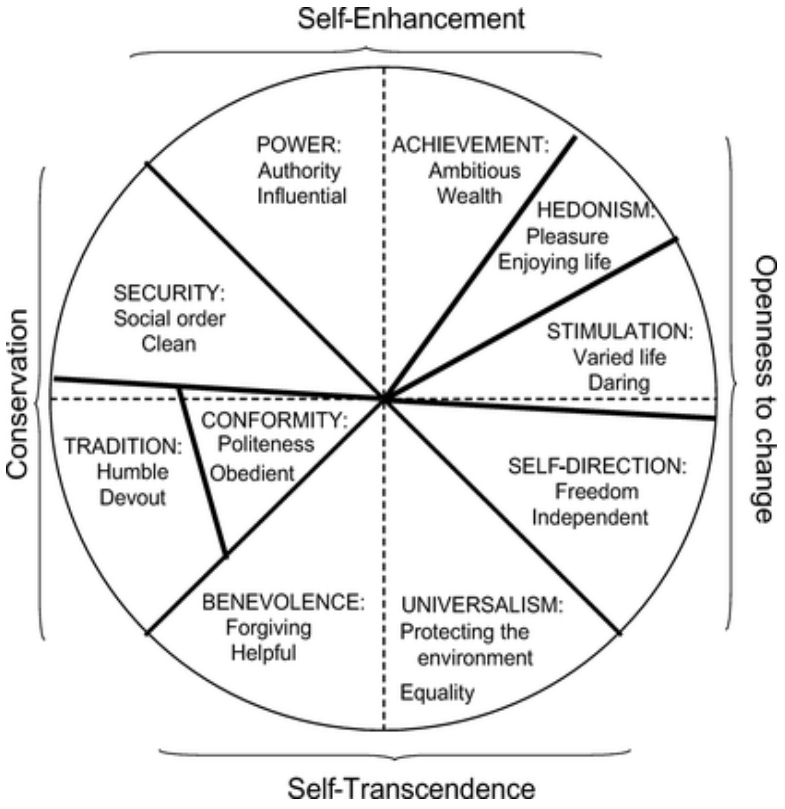


Table 1.1: Schwartz's (1992) conceptual definitions of 10 basic values according to their motivational goals.

Value	Conceptual Definitions
Self-direction	Independent thought and action – choosing, creating, exploring
Stimulation	Excitement, novelty, and challenge in life
Hedonism	Pleasure and sensuous gratification for oneself
Achievement	Personal success through demonstrating competence according to social standards
Power	Social status and prestige, control or dominance over people and resources
Security	Safety, harmony, and stability of society, of relationships, and of self
Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide
Benevolence	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact
Universalism	Understanding, appreciation, tolerance and protection for the welfare of all people and for nature.

The most important feature of Schwartz's model is the way in which this model effectively illustrates how values relate to one another. That is, values that are adjacent in the circumplex (e.g., hedonism and stimulation) are similar and related as they share motivational goals. These values will often be positively correlated,

whereas orthogonal values positioned at opposing ends (e.g., hedonism and conformity and tradition) are dissimilar and unrelated as they do not share motivational goals. Therefore, these values will often be uncorrelated or more negatively related if directly opposing each other.

Given this, Schwartz's model predicts which values will be compatible and which values will conflict with one another. This is important, as previous models have made few predictions about which values are more likely to complement and conflict with one another, although Schwartz (1992) did not state what the social and psychological consequences of pursuing either compatible or incompatibles values would be. However, some research has been done into the consequences of people holding incompatible values to important reference groups. For example, Feather and Cross (1975) found that the discrepancies between adolescents' values and their perception of their parents' values were far greater for delinquents than for non-delinquents. In addition, Sagiv and Schwartz (2000) found that business students and psychology students experienced a more positive sense of well-being when their personal values were congruent with the values promoted by their respective academic departments. Similarly, Rohan and Maiden (2000) found that teachers who experienced greater congruity between their values and their school's values reported lower stress, more job commitment, and more satisfaction. Furthermore, Bernard *et al*. (2006) found that feelings of cultural estrangement can arise from discrepancies between personal and societal values. Research has also found that people experience feelings of ambivalence towards other people when they hold incompatible values (Gebauer *et al*., 2009).

Schwartz model has been assessed by data from hundreds of samples in 82 countries around the world (Schwartz, 1996, 2001, 2006b; Peng, *et al.,* 1997; Davidov *et al*., 2008; Bilsky *et al*., 2011). The samples include highly diverse geographic, cultural, linguistic, religious, age, gender, and occupational groups with representative samples from 37 countries. Schwartz's (1992) model has also been indicated in value response latencies (Pakizeh *et al.,* 2007), value priming effects (Maio *et al.,* 2009), and value change (Bardi & Goodman, 2011; Maio *et al*., 2009). Thus, this model is empirically validated by research and is therefore a conceptually sound model.

Research has indicated that individuals differ substantially in the importance they attribute to the ten values (Schwartz & Bardi, 2001; Schwartz, 2012b); however, across societies there is a consensus regarding the hierarchical order of the values (i.e. value priorities). Thus, across representative samples, using different instruments, the value priorities are quite similar. Benevolence, universalism and self-direction are ranked as the most important values and power and stimulation as the least, with security, conformity, hedonism, achievement and tradition being in the middle. This pan-cultural hierarchy provides a baseline with which to compare value priorities in any sample. Such comparison is said to be vital for identifying which, if any, of the value priorities in a sample are distinctively high or low. A sample may rank benevolence highest, for example, but compared with other samples the importance rating of this value may still be relatively low. This will be thus done for the current study (see results section). The reason for the pan-cultural hierarchy of values has been hypothesised to be due to the importance of maintaining societies for our common human nature; thus, values ranked as most important help to do this and values ranked as least important compromise this (Schwartz, 2012b).

Schwartz *et al.,* (2012a) more recently proposed a refined theory of his individual value model with an extra 9 values (see Figure 1.2 & Table 1.2). This new model was intended to provide 'greater heuristic and explanatory power than the original 10 values" (p.663). Thus, the refined model has been tested in 10 countries (N=6,059) using an updated version of the PVQ, which has been extended to 57 questions from 40. Confirmatory factor and multidimensional scaling analyses support the discrimination of the 19 values.

The refined theory is compatible with the original 10 broad value constructs, because the 19 values cover the same circular motivational continuum as the original 10. Schwartz (2012a) has extended the values by making some of the original values more conceptually broad, with multiple components; for example, universalism is now split into three components (tolerance, nature and concern), whereas self-direction is split into two components (thought and action), as is power (dominance and resources), security (societal and personal) and benevolence (dependability and caring). The new model is also grounded in three basic requirements that fulfil the various functions that Schwartz (1992, 2006) attributed to the basic values. Thus, they focus on attaining personal or social outcomes, they promote growth and self-expansion or anxiety-avoidance and self-protection, they express openness to change or conservation of the status quo, and they promote self-interest or transcendence of self-interest in the service of others.

Figure 1.2: Schwartz's (2012a) refined model of individual values

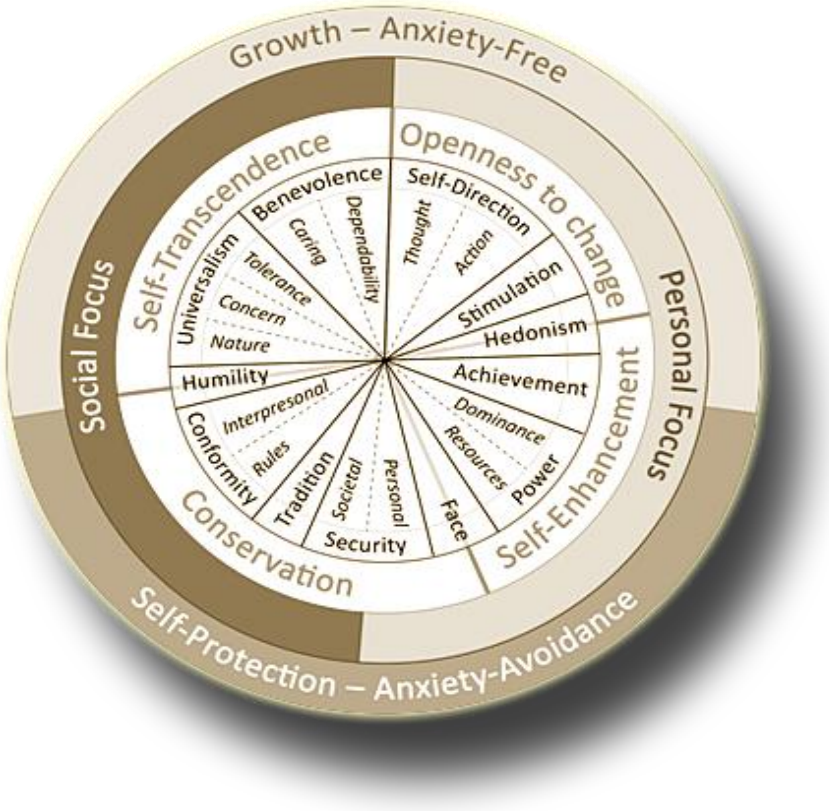


Table 1.2: Schwartz's (2012a) refined model of values: Conceptual definitions of 19 basic values according to their motivational goal

Value	Defining motivational goal
Self-direction – thought	Freedom to cultivate one's own ideas and abilities
Self-direction-action	Freedom to determine one's own actions
Stimulation	Excitement, novelty, and change
Hedonism	Pleasure and sensuous gratification
Achievement	Success according to social standards
Power -dominance	Power through exercising control over people
Power - resources	Security and power through maintaining one's public image and avoiding humiliation
Face	Security and power through maintaining one's public image and avoiding humiliation
Security – personal	Safety in one's immediate environment
Security - societal	Safety and stability in the wider society
Tradition	Maintaining and preserving cultural, family, or religious traditions
Conformity - rules	Compliance with rules, laws, and formal obligations
Conformity - interpersonal	Avoidance of upsetting or harming other people
Humility	Recognizing one's insignificance in the larger scheme of things
Benevolence - dependability	Being a reliable and trustworthy member of the in group
Benevolence – caring	Devotion to the welfare of in group members
Universalism – concern	Commitment to equality, justice, and protection for all people
Universalism – nature	Preservation of the natural environment
Universalism - tolerance	Acceptance and understanding of those who are different from oneself

The current study will be utilising Schwartz's (1992, 2012a) model of values as it is apparent from the prior discussion that his model has been the most widely tested across cultures. This has the added utility of describing how values relate to each other, and more recently how values relate to behaviour and motivation (e.g. express growth or self-expansion or self-protect), social aspects (e.g. distinction between social and personal focus and most importantly with relation to the current study how values relate to emotion (e.g. anxiety free and anxiety avoidance). This is the first time that Schwartz has related values explicitly to emotion, but has yet to be empirically supported.

The next section will describe how researchers have devised tools to measure values.

1.3.6 Measuring values

As discussed, a number of researchers have tried to define and differentiate between values, and in doing so have proposed several different models of values. What follows from this has been a number of attempts to devise a tool that can access people's values cognitively in order to measure and assess these values, which will test these models across cultures and enable researchers to find out more about values and how they relate to different concepts. Rokeach (1973) made the first attempt at this by devising a list of 36 values based on pilot work which asked people to describe their values and by an examination of value-like trait words (Anderson, 1968). His approach involved asking people to rank all 36 values (split into two groups

of 18) from least to most important. This method has been used by many researchers (e.g. Lee *et al., 2008;* Steele & Liu, 1983; Tetlock, 1986*)*.

Schwartz (1992) then went on to devise two questionnaires to measure values, namely the Schwartz Value Survey (SVS) and more recently the Portrait Value Questionnaire (PVQ) (Schwartz, 2001). The SVS has been tested in more than 200 samples from more than 60 nations supporting the distinctiveness of the 10 values and the circular structure of relations among them (Fotaine & Schwartz, 1996; Schwartz, 1992, 1994; Schwartz & Sagiz, 1995; Schwartz, 2001). Nonetheless, 5% of the sample deviated considerably from the theorised pattern. Deviations were most common and extreme in samples from sub-Saharan Africa, India, Malaysia and rural areas of less developed nations. These deviations could suggest that the values theory may not hold universally, particularly those people from less developed, non-Western nations. However, it could also be that the problem does not lie in the theory but in the instrument used to measure these values. Thus, the SVS requires a high level of abstract thoughts and presents the values outside of any specific concept. Notably, the samples in which the theory failed to yield support were exclusively from non-Western populations that had not been educated in schools that emphasize abstract, context-free thinking. The PVQ was devised to rectify this problem.

The Portrait Values Questionnaire (PVQ) is an alternative to the SVS, which has been developed to also measure the ten basic values in samples of children from age 11, of the elderly, and of persons not educated in Western schools that emphasize abstract, context-free thinking. The PVQ is thus more concrete than the SVS and uses

examples of each value; the rating scale is more comprehensible. The PVQ has been found to have good internal reliabilities and good convergence with the original SVS (Schwartz, 2005b). In addition, the PVQ thus far has yielded, stronger evidence of fit to the model in the countries in which it has been used, including Uganda and South Africa (Schwartz, *et al.*, 2001). Given that the PVQ has been widely tested and has been found to be more effective than the SVS, then this will be used in the current study, but it will be adapted to include Higgins's (1987) model of self-discrepancies (see methods chapter).

The above sections have highlighted the different models of values (particularly Schwartz model of values) and the tools that researchers have used to measure values; however, these models have not stipulated how these values are activated. The next section will outline how researchers argue this is done.

1.3.7 Value activation

Maio and Olson (1998) argue that values often operate as "truisms". That is, values are often widely accepted by individuals (and perhaps some cultures) and are therefore rarely questioned. Individuals do not tend to consider adequate reasons regarding a value and therefore do not have any arguments for why values such as helpfulness and equality are important; as a result values are held so firmly and deeply that they fail to be conscious of them. However, a person's values can be activated at a more conscious level when they are asked to consider reasons for or against a value they hold (i.e. they were asked to generate cognitive support for their value). Maio

and Olson (2002) tested this and found that when participants considered reasons for their values, the importance ratings of the value changed, whilst participants who did not consider reasons did not change their values. This therefore, implies that individuals will hold their values as 'truisms' and behave in accordance with them unless their values are challenged in some way, leading to their values being activated and individuals to then consider reasons for holding that value.

Furthermore, values have also been found to be activated via priming. For example, Maio *et al. (2009)* found that priming certain values can increase or decrease value-related behaviour; for instance they found that priming benevolence values decrease success and increase helpfulness. Bargh *et al*., (2001) also found that participants were better at solving word puzzles if they first read an article that reminds them of the importance of achievement. Similar effects have been found in other research that primed social value constructs (Roccas, 2003; Verplanken & Holland, 2002). Furthermore, Karremans (2007) found that having cognitive support for a specific value can increase behaviour that expresses a related value (e.g. considering arguments for and against honesty and loyalty can increase helping behaviour).

Summary 1.3.8

Values have been conceptualised and operationalised in many different ways; which has led to further understanding in how values are defined, developed, differentiated, assessed and measured. It has been argued that values that are often activated at an unconscious level as values act as 'truisms', but they can be activated at a more

conscious level if people are asked to provide cognitive support for their values or if they are primed.

It is evident from Schwartz's model that values act as powerful motivators for behaviour and that people have value priorities. Given this, it is curious that Schwartz's model has to date only been tested on non-clinical populations. A clinical group that would be interesting to test his model on is people with mental health problems as can be highly motivated to behave in certain ways. For example, anxiety and eating disorders are mental health problems where people may be highly motivated to avoid feared situations or weight gain. The next section will describe these behaviours in more detail and hypothesis from these which of Schwartz (1992) values they may hold.

1.4 VALUES AND MENTAL HEALTH PROBLEMS

Research has indicated that values are powerful motivators for behaviour. Given this, values are likely to motivate people to behave in certain ways that cause them to experience psychological distress. Therefore, this section will describe two main mental health disorders (e.g. anxiety and eating disorders), consider the behaviours that they are motivated to engage in, and from this hypothesise the central values (e.g. those values that are most important to them and most closely connected to their core-self) that may underpin and/or relate to these disorders.

1.4.1 Anxiety Disorders

The DSM-IV-TR (American Psychiatric Association, 2000) identifies several different anxiety disorders. These include panic disorder (PD) with agoraphobia, PD without agoraphobia, agoraphobia without history of panic, specific phobia, social phobia, obsessive-compulsive disorder (OCD), post-traumatic stress disorder (PTSD), acute stress disorder, and generalised anxiety disorder (GAD). For the current study a sample is going to be drawn from participants with PD and OCD.

NICE (2006) guidelines for OCD state that the disorder is characterised by the presence of either obsessions or compulsions, but commonly both. An obsession is defined as "an unwanted intrusive thought, image or urge, which repeatedly enters the person's mind" (NICE, 2006, p.15). Obsessions are seen as distressing but are acknowledged as originating in the person's mind, and not imposed by an outside agency. They are usually regarded by the individual as unreasonable or excessive. Compulsion are "repetitive behaviours or mental acts that the person feels driven to perform" (NICE, 2006, p.15). A compulsion can either be overt and observable by others, such as checking that a door is locked, or a covert mental act that cannot be observed such as repeating a certain phrase in the mind. According to the NICE (2011, p.4) guidelines panic disorder, "panic disorder is characterised by recurring, unforeseen panic attacks followed by at least 1 month of persistent worry about having another attack and concern about its consequences, or a significant change in behaviour related to panic attacks. Panic disorder can be diagnosed with or without agoraphobia".

It has been argued that anxiety disorders have common features such as the presence of fear, anticipatory anxiety, and worry, situational avoidance, avoidance of thoughts and feelings and interceptive anxiety, i.e. anxiety sensitivity and overprotective behaviours such as compulsive rituals and safety behaviours (Antony, 2002). It seems apparent from the common features of anxiety disorders that people with these disorders are concerned and motivated with keeping their environment predictable and controllable (Lohr *et al*., 2007*)* as they struggle to tolerate uncertainty (Tolin *et al,* 2003; Holaway *et al.,* 2006) and feeling safe and secure and away from danger is important to them (Hawton *et al*., 1989; Lohr *et al.*, 2007). In order to achieve this they may want to avoid anything that they perceive as a threat and engage in safety seeking behaviours (Salkovskis, 1985), as well as conforming to personal and societal rules. Given this, it seems likely that people with anxiety disorders, in accordance with Schwartz's (1992) model, would have central values centred on conservation quadrant with values like security, tradition and conformity.

1.4.2 Eating disorders

Eating disorders have been described by the American Psychiatric Association (1994) as falling into four main categories: *Bulimia Nervosa* which is characterised by recurrent episodes of binge eating and secondly by compensatory behaviour (vomiting, purging, fasting or exercising or a combination of these) in order to prevent weight gain (NICE, 2004); *Binge Eating Disorder* which is characterised by binge eating behaviour without the compensatory behaviour; *Anorexia Nervosa* which is when the individual maintains a low weight as a result of a preoccupation with body

weight, construed either as a fear of fatness or pursuit of thinness (NICE, 2004); and *Eating Disorders Not Otherwise Specified (EDNOS)*, where the eating disorder may resemble either both anorexia nervosa and bulimia nervosa, but which is considered atypical, as this does not meet the precise diagnostic criteria for these conditions (NICE, 2004). Of the three types of eating disorders, EDNOS is the most common (Fairburn *et al.,* 2007). For the current study the sample will be drawn from all of these types of eating disorders.

Fairburn *et al.* (2003) argues that the different type of eating disorders share the same core psychopathology, namely over-evaluating eating, shape and weight and their control; and that people tend to move between these diagnostic states over time (Fairburn *et al.,* 2003). In addition, Fairburn *et al.* (2003) also argue that the three types of eating disorders also share common psychopathological features that function to maintain their eating disorder, for example, a dysfunctional schema for self-evaluation, core low self-esteem, mood intolerance, interpersonal difficulties and 'clinical perfectionism'. 'Clinical perfectionism' has been defined as:

> *'The over-evaluation of the striving for, and achievement of, personally demanding standards despite adverse consequences. In other words, they suggest that, at the heart of the psychopathology of clinical perfectionism, is a system for self-evaluation in which self-worth is judged largely on the basis of striving to achieve demanding goals and success at meeting them' (*Fairburn *et al.,* 2003, p.515).

Perfectionism is well known to occur in eating disorders (Wonderlich, 2002; Shafran *et al.,* 2002*)*. The person's perfectionist standards are said to be applied to attempts to control their eating, shape and weight as well as other aspects of their life (e.g. their performance at work or at a sport, Fairburn *et al.,* 2003). Given this, it seems likely that the central values of people with eating disorders are centred on the self-enhancement quadrant and more specifically achievement values when considering their values in relation to Schwartz's (1992) model.

1.4.3 Summary

An overview has been provided of anxiety and eating disorders, and the common features within these disorders have been outlined. When considering these common features in accordance with Schwartz's (1992) model, it is apparent that the disorders could have particular value underpinnings which were highlighted. Thereby, if people with mental health problems behaviours are motivated by particular values in some way, it is possible that these could impact on psychological distress. The next section will highlight the possible ways in which this could happen.

1.5 VALUES AND PSYCHOLOGICAL DISTRESS

As illustrated previously, values motivate people to behave in particular ways in accordance with their value priorities. The Schwartz model also highlights how there are values that are compatible and incompatible with one another. It is therefore likely that pursing incompatible values could lead to psychological distress, including feelings of ambivalence, as will behaving incongruently with one's values. In addition,

if a person's values are violated or challenged in some way, this could lead to psychological distress. Furthermore, Schwartz argues that certain values (e.g. conformity and security) will motivate individuals to avoid anxiety with the aim of self-protection, whereas certain values (e.g. self-direction and stimulation) will be 'anxiety free' with the aim of self-growth, and that the act of constantly trying to avoid anxiety in an unpredictable world could lead to psychological distress. Given all of this, it is likely that pursing incompatible values, behaving incongruently with your values or having your values violated or challenged could possibly be related to the psychological distress experienced in mental health problems.

Several psychological therapies have recognised this; for example, Cognitive Behavioural Therapy (CBT) draws on the theory of cognitive dissonance and stipulates that distress can arise when people do not meet their core beliefs or act against them, which can be formed from self-imposed unrealistic values and standards (Beck, 1979; Festinger, 1957). Value-related processes have also been discussed in Person-Centred Therapy (Rogers, 1964) and Motivational Interviewing (Wagner & Sanchez, 2004), and more recently Acceptance and Commitment Therapy (ACT) (Hayes *et al.,* 2003), which places a specific emphasis on values and their role within psychological distress. They also subsequently promote value-based interventions.

Acceptance and Commitment Therapy (ACT) (Hayes *et al*., 2003) recognises the importance of values and promotes value-congruent behavioural interventions for various mental health problems, e.g. for OCD (Twohig, 2010). Valued living has been posited as a primary core process of ACT (Hayes *et al*., 2006; Strosahl *et al*., 2004)

and has been theoretically associated with other core processes, such as mindful acceptance, and many important outcomes, such as decreased psychological distress, increased psychological adjustment, and improvements in quality of life (Wilson & Murrell, 2004). In the ACT model, individuals' attempts to eliminate or attenuate difficult psychological experiences cause avoidance that increases psychological distress and has a negative impact on valued living (Hayes *et al*., 1999; Wilson, 2009).

According to ACT theorists, values serve to motivate behaviour and facilitate acceptance despite the experience of painful emotions and stimuli (Hayes *et al*., 1999). Thus, they state that it is only through a person's desire to live in accordance with their values that they are willing to endure pain that may be associated with acceptance. All components of ACT are linked to values clarification as a source of motivation and life purpose (Hayes & Duckworth, 2006). The ACT model utilises two main questionnaires to help people clarify their values: the Valued Living Questionnaire (Wilson *et al.*, 2010) and the Bull's Eye Measure of Valued Living (Lungren *et al*., 2005).

There have been several studies looking at measuring the effectiveness of having a values based intervention. For example, Branstetter-Rost *et al*. (2009) compared the effects of an ACT-based acceptance intervention for pain tolerance with and without the values component. They found that the inclusion of the values component in the intervention led to greater pain tolerance than without. Mc Cracken and Yang (2006) also examined the role of values, as conceptualised by ACT among patients with

chronic pain. Within this population it was found that those who were more successful at living and engaging in behaviour that was consistent with their values experienced better physical functioning and emotional well-being. However, these studies have been done with a sample of people experiencing physical health problems; it would be interesting for further research to do this with people experiencing mental health problems.

1.5.1 Summary

Schwartz's model of values has implicated in the various ways highlighted above that values could lead to psychological distress. Various psychological models and therapies have also recognised this and have argued that value incongruent behaviour could lead to the psychological distress experienced in mental health problems. However, this has yet to receive any empirical support with people with mental health disorders. Investigating the link between values and the psychological distress experienced by people with mental health problems poses a challenge as it has not been done previously. However, if we consider the argument that the psychological therapies put forward; thus, behaving incongruently with your values (e.g. not behaving in a way that is consistent with your values) causes' psychological distress, then it would make sense to use a model and methodology which could assess this. Higgins's (1987) model of self-discrepancies has been put forward as a model that could do this for the current study.

1.6 DISCREPANCIES IN VALUES

1.6.1 Overview

As argued in the sections above, value incongruent behaviour could have an impact on people's psychological distress, and in turn play a role in mental health problems. However, this has not been evidenced by published research with people with mental health problems. One way to investigate this is by drawing on a model and methodology that looks at discrepancies between domains of the self (i.e. our actual self, ideal self and the self we feel we ought to be) and the impact of these emotionally, and apply this to look at self-discrepancies in values instead of self-concept, to investigate the link with psychological distress. The Higgins (1987) model of self–discrepancies will be put forward as the model and methodology to do this. The section below will firstly outline Higgins's model of self-discrepancies and then finish with the only study to date that has utilised Higgins's model in relation to values with an undergraduate sample (Rees & Maio, 2009), as well as discussing the implications of this to the current study.

1.6.2 The Higgins (1987) self-discrepancies model

The Higgins (1987) self-discrepancy theory describes discrepancies between self-state representations and how these different types of discrepancies cause different emotions. Higgins argues that one domain of the self (actual; ideal; ought) and one standpoint on the self (own; significant other) constitute different type of self-state representations. Combining each of the *domains* of the self with each of the *standpoints* of the self yields six basic types of self-state representations (see table

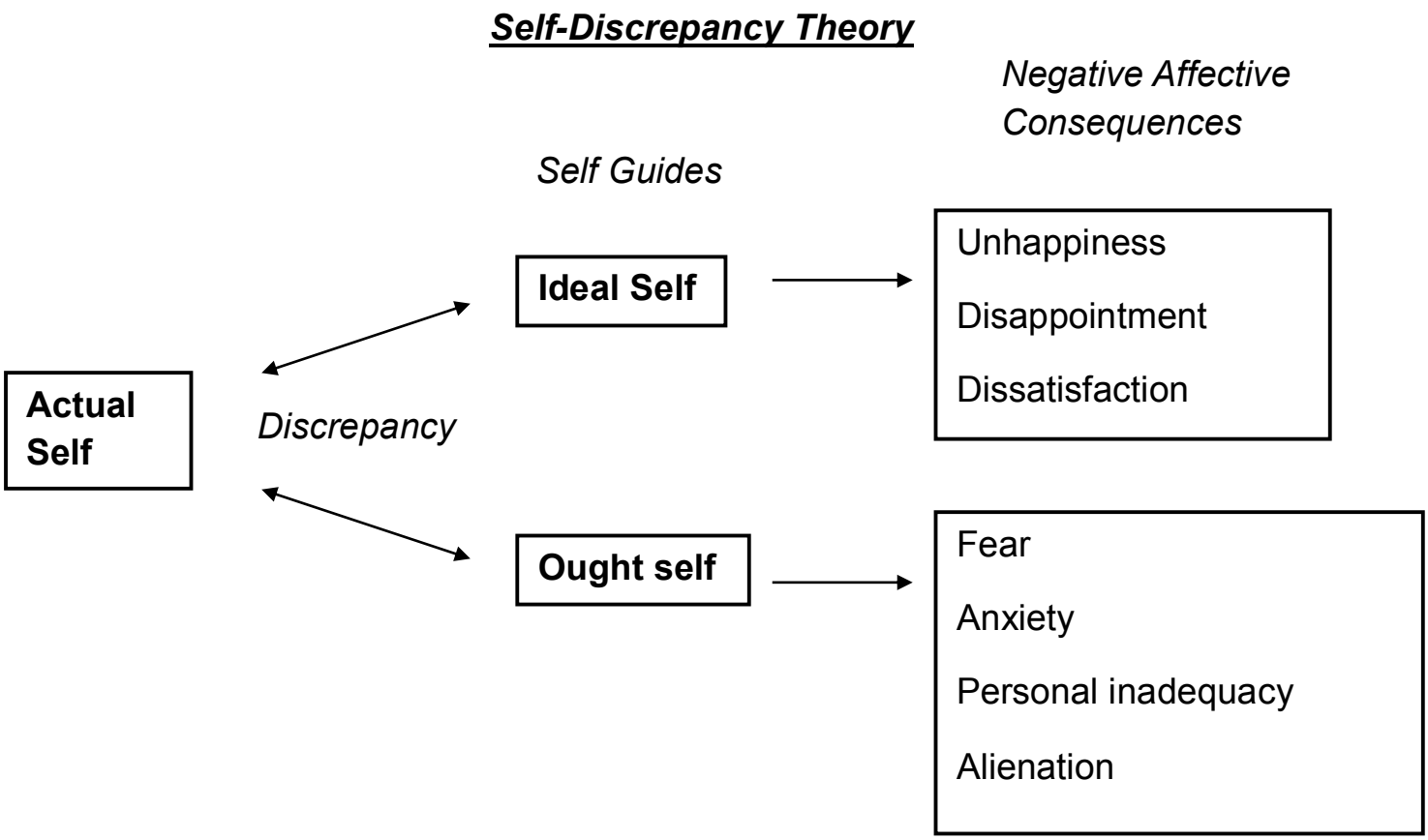
1.3): actual/own, actual/other, ideal/own, ideal/other, ought/own and ought/other. The first two self-state representations (particularly actual/own) constitute what is typically meant by a person's self-concept. The four remaining self-state representations are self-directive standards or acquired guides for being; in brief "self-guides" (see Higgins *et al.*, 1986).

Table 1.3: Self-state representations according to the Higgins model of self-discrepancy

	Actual	**Ideal**	**Ought**
Own	Self-concept	Self-guide	Self-guide
Other	Self-concept	Self-guide	Self-guide

This theory proposes that people differ as to which self-guide they are especially motivated to meet. Not everyone is expected to possess only ought to self-guides, whereas others may possess only ideal self-guides. The self-discrepancy theory postulates that we are motivated to reach a condition where our self-concept matches out personally relevant self-guides. Furthermore, Higgins (1989) found that AI self-discrepancies lead to dejection-type emotions (e.g. sadness) and AO self-discrepancies lead to agitation-oriented emotions (e.g. anxiety) (see figure 1.3). Carver *et al.* (1999) made a new amendment to Higgins's theory by adding the domain of the feared-self which, unlike the other self-guides which imply an actual or desired (better) self, is a domain that measures what one does not desire to be.

Figure 1.3: Higgins's (1987) Self-Discrepancy Theory



The Higgins model of self-discrepancy also distinguishes between *promotion-focused strategies which cause* a state of eagerness or approach, which triggers behaviour designed to attain a goal and *prevention-focused strategies* which cause a state of vigilance or avoidance, triggering behaviour geared to avoid moving away from a goal. According to Higgins (1998), sensitivity to positive outcomes should predominate when the ideal self-guide induces a promotion focus, and sensitivity to negative outcomes should predominate when ought self-guide induces a prevention focus. Higgins (1999) also described four variables that moderate the likelihood of finding the unique discrepancy-emotion relations; the magnitude of a self-discrepancy, the

accessibility of a self-discrepancy, the applicability and relevance of a self-discrepancy in a current context, and the importance of a self-discrepancy to the person.

Higgins (1985) devised the “selves” questionnaire to measure self- discrepancies. This questionnaire asks the participant to list up to 10 traits or attributes for each of a number of different self-states. For example, it asks the participant to list 10 qualities they believe they actually have, 10 qualities they believe they ought to have and 10 qualities they would ideally like to have. It is administered in two sections, one involving the respondent’s own standpoint and the other involving the standpoint of the respondent’s parent or a close friend. Another questionnaire is the “Regulatory Focus Strength Measure” (Higgins, 1997) which asks participants to list, one at a time, four attributes they would ideally like to possess and four attributes they believe they ought to possess, in a seemingly random order.

The Selves Questionnaire has been commonly adopted by researchers (Cornette, 2009; Fairborther & Moretti, 1998; Ferrier & Brewin, 2005; Scott & O’Hara, 1993), but has been criticised by some (Tangey *et al.,* 1998; Rodebaugh & Donahue, 2007) as they found no support for self-discrepancy theory and suggested that the Selves Questionnaire actually taps into a generalized self-discrepancy that does not demonstrate the relations proposed by Higgins (1987). Other researchers have found this, and it has been therefore adapted and modified by many researchers (Strauman *et al.,* 1989, 2001; Bentall *et al.,* 2005; Crane *et al., 2008)* in response to this criticism (see systematic review).

Higgins's self-discrepancy theory has received support from a number of studies utilising non-clinical populations (e.g. Higgins, 1989; Scott & O'Hara, 1993; Strauman, 1989; Strauman & Higgins, 1987, 1988). In addition, the Higgins model has been tested in relation to clinical populations of participants with various psychological disorders (see systematic review section 1.7) and physical health problems (cancer, Heidrich, *et al.,* 1994; chronic low back pain, Kinderman *et al*., 2011; brain injury, Cantor *et al.,* 2005). However, some published research has failed to support the distinctiveness of actual: ideal (AI) and actual:ought (AO) self-discrepancies relating to particular types of emotional distress (e.g. Tangney *et al., 1998).* They did, however, find that the tendency to experience shame rather than guilt was positively related to all types of self-discrepancies

In summary, Higgins's (1987) model of self-discrepancy has been widely tested and supported. However, In relation to values, Higgins model has only been tested by one study. For example, Rees and Maio (2009) applied Higgins's methodology to values with the aim of testing whether values that are 'central' to the self-function more strongly as ideal self-guides than as ought self-guides, whereas values that are 'peripheral' to the self-function more strongly as ought self-guides than as ideal self-guides. The secondary aim was to examine a potential emotional consequence of the difference in self-guide dominance.

In the first study, they used Rokeach's (1973) measure of value centrality to identify participants' three most central values and three least important values from a set of 20 across the circular model. The values were core examples of each of the four

higher-order orthogonal value domains in Schwartz's Value Survey (1992). Participants (undergraduate students) were then asked to rate the extent on a scale of 0 (not at all) to 3 (very much so) to which they *actually, ideally*, and *should* fulfil each value, using items that Higgins (1987) has developed for examining self-guides. These measures helped to test Rokeach's prediction that central values are stronger ideals than oughts. As expected, the three most important values were rated as being significantly stronger ideals than oughts, whereas the reverse was true for the three least important values.

The second study tested whether violation of central and peripheral values elicited different emotional consequences; more specifically whether the violation causes dejection or agitation type emotions in accordance with Higgins's model of self-discrepancies. As expected, participants experienced more dejection after writing an essay against one of their most important values than after writing an essay against one of their least important values, and this effect occurred in both the private and the public contexts. In contrast, participants experienced more agitation after writing an essay against one of their least important values than writing an essay against one of their most important values, but this only occurred in the public context and not in the private. Maio (2010, p.23) argues that "this pattern perfectly fits Higgins' (1999) summary of the conditions linking self-guides to emotional consequences, while integrating this prediction with an important distinction in the values literature: the distinction between those considered as central and those considered as peripheral values".

1.6.3 Summary

Previously Higgins's model of self-discrepancy has been looked at in relation to domains of the self, but not in relation to values. However, more recently, Rees and Maio (2009) carried out some research with regards to values as self-guides and values and emotion. However, they did this with a non-clinical undergraduate sample, and to date this research has not been done with a clinical sample.

As stated above, Higgins's model of self-discrepancy has not been tested in relation to values on a clinical population, and therefore we cannot review the evidence base in relation to this for the current study. However, Higgins's self-discrepancy theory has been tested on various clinical populations (both with physical and mental health problems). The next section will systematically review the relationship between self-guides and distress in mental health disorders in order to consider the application of Higgins's theory in recognised clinical populations (such as mental health disorders), and to investigate its utility for these groups as well as other groups (e.g., non-clinical populations such as undergraduates).

1.7 SELF-DISCREPANCIES AND DISTRESS IN MENTAL HEALTH DISORDERS: THE EVIDENCE

1.7.1 The Aim and Scope of the Current Literature Review

The present systematic review aims to critique and synthesise empirical research exploring the role that self-discrepancies play in psychological distress, based on clinical sample(s) of people with mental health problems.

1.7.2 Systematic Review Question

What role do self-discrepancies (Higgins, 1987) play in the psychological distress experienced in mental health disorders?

1.7.3 Method

1.7.3.1 Literature Review Strategy

To locate relevant studies, the following electronic bibliographic databases were searched: PsychINFO, PsycARTICLES, Web of Knowledge, Medline, Science Direct, CINAHL and ASSIA.

1.7.3.2 Search Terms

The following search terms were used in each of the above databases:

- Self-discrepanc* and psychologic* distress*
- Self-discrepanc* and distress*
- Self-discrepanc* and emotion*
- Self-discrepanc* and feeling
- Self-discrepanc* and mood
- Self-discrepanc* and affect
- Self-discrepanc* and mental health
- Self-discrepanc* and mental
- Self-discrepanc* and difficult*
- Self-discrepanc* and disorder
- Self-discrepanc* and anxiety
- Self-discrepanc* and depress*
- Self-discrepanc* and delusion*
- Self-discrepanc* and paranoi*
- Self-discrepanc* and social anxiety
- Self-discrepanc* and suicid*
- Self-discrepanc* and bipolar
- Self-discrepanc* and eatin*
- Self-discrepanc* and obsess*
- Self-discrepanc* and panic

1.7.3.3 Inclusion and Exclusion Criteria

The following inclusion and exclusion criteria were used to select relevant studies to address the review question.

1.7.3.3.1 Inclusion Criteria

1. Articles must be empirical studies
2. Participants must be adults (age 18 and over)
3. Participants must be drawn from a clinical sample (e.g. participants with mental health problems)
4. Articles must be in English
5. The aims of the study must be in relation to the relationship between self-discrepancies (Higgins 1987) and distress
6. Studies after 1980 until 2013
7. Published in peer-reviewed journal

1.7.3.3.2 Exclusion Criteria

Participants must not be undergraduate or college students without a diagnosable mental problem

Articles must not be reviews or opinion article

Participants must not be drawn from a clinical sample of people with physical health problems (e.g. chronic back pain) as the current study is interested in clinical samples of people with mental health problems only.

1. 7.4 Systematic Review Process

A total of 3987 articles were identified using the search terms and databases outlined above, and were then reviewed by title and abstract for relevance to the topic of self-discrepancies and psychological distress. Any article that clearly met one of the exclusion criteria was eliminated from the review at this stage. This process left 61 abstracts which were then examined by the researcher and her supervisor in more detail to ensure that they were eligible for inclusion in the study. The clinical supervisor of the study acted as an independent rater, examining the 61 abstracts. As the inclusion/exclusion criteria were used to judge inter-rater agreement, each of the articles not agreed on by both parties were discussed in a consensus building process until agreement was reached.

Of the 61 abstracts 22 full text articles were retrieved and examined again in more detail by the researcher and supervisor: a further 5 articles were excluded, which left

17 studies which were eligible to be included in the systematic review. The process of article extraction is detailed in full in Appendix 1.

1.7.5 Results

1.7.5.1 Overview of the Critical Review

The 17 studies that met the inclusion and exclusion criteria were critically reviewed in relation to samples included in the studies (e.g. participants' mental health diagnoses, number, gender and age), research design (self-discrepancy measures used, psychological distress measures used), key findings and strengths and limitations. The review had been presented in a table (see Appendix 2) which is to be used alongside the following narrative review.

1.7.5.2. Samples included in the studies

This section will provide the relevant details of the participants included in the studies such as the participants' mental health diagnoses, sample size, gender and age.

1.7.5.2.1 Participants' mental health diagnoses

The 17 articles included in this review examined the role of Higgins's (1987) model of self-discrepancy across a range of mental health problems. These included, bipolar disorder (Alatig *et al.,* 2010; Bentall *et al.,* 2005); depression (Strauman *et al*., 2001; Fairbrother & Moretti, 1998; Scott & O'Hara, 1993; Crane *et al.,* 2008; Vergara-Lopez & Roberts, 2012) social phobia and depression (Strauman, 1989; Weilage & Hope,

1999); psychosis (Kinderman & Bentall, 1996; McColluch *et al.,* 2006; Kinderman *et al.,* 2003); borderline personality disorder (van den Broeck *et al.,* 2012); eating disorders (Wonderlich *et al*., 2008); Post Traumatic Stress Disorder (PTSD) (Sutherland & Bryant, 2008); suicidal ideation (Cornette *et al*., 2009) and OCD (Ferrier & Brewin, 2005).

The samples consisted of different types of groups; for example, mental health groups (i.e. the mental health disorders being investigated in the study), psychiatric control group and 'healthy' control groups, which were recruited from a variety of convenience sampling methods. The majority of the mental health groups (13) were recruited from outpatient and inpatient clinics with Crane *et al.* (2008) and also recruiting through local media. The other 4 studies recruited via local media and print adverts (Weilage & Hope, 1999) and universities (Alatig *et al.,* 2010; Cornette, 2009; Vegara-Lopez & Roberts, 2012) as these three studies were undertaken exclusively with undergraduates. However, only students with diagnosable mental health problems were included in these studies (as per the inclusion criteria).

The majority of the studies (11) included a 'healthy' control group for comparison, and 6 studies did not (van den Broeck *et al.,* 2012; Cornette, 2009; Strauman *et al.,* 2001; Vegara-Lopez & Roberts, 2012; Sutherland & Bryant, 2008). The 'healthy' control groups were recruited through a university (Alatiq *et al.,* 2010; Scott & O'Hara, 1993; Strauman, 1989), informal contacts (Bentall *et al., 2005;* Kinderman & Bentall, 1996*),* university hospital adverts (Fairbrother & Moretti, 1998), volunteers (Ferrier & Brewin, 2005), attendees at a General Practice (Kinderman *et al.,* 2003), study local day centre

(McColluch *et al.,* 2006) and television, radio and print adverts (Weilage & Hope, 1999; Wonderlich *et al.,* 2008). Six studies (Ferrier and Brewin, 2005; Kinderman & Bentall, 1996; Kinderman *et al.,* 2003; McColluch *et al.,* 2006;) also included a psychiatric control group, with Crane *et al.* (2008) and Sutherland & Bryant (2008) only having a psychiatric control group and not a 'healthy' control. These studies were also recruited from the same inpatient and outpatient mental health services as the mental health groups.

The majority of the studies (14) established 'caseness' or a diagnosis for the mental health disorder they were investigating by a structured clinical interview carried out by various mental health professionals, based on criteria from the Diagnostic Statistical Manual Versions 3 and 4 (DSM-III-R, DSM-IV, American Psychiatric Association, 1984: 1994). Two studies (Cornette, 2009; McColluch *et al.,* 2006) used self-report questionnaires specific to the mental health disorder they were testing, whereas one study (Kinderman *et al.,* 2003) only reviewed case notes and relied on discussions with staff regarding their diagnoses.

1.7.5.2.2 Sample Size

The total samples sizes in the studies ranged from 27 (Kinderman *et al., 2003)* to 152 (Cornette, 2009). The mean sample size was 66. The mental health groups sample sizes ranged from 13 (Kinderman *et al.,* 2003; McColluch *et al.,* 2006) to 152 (Cornette, 2009) and the mean sample size was 40. The psychiatric control group ranged from 11 (Kinderman *et al.,* 2003) to 22 (Kinderman & Bentall, 1996) with a mean sample

size of 21. The 'healthy' control group sample size ranged from 5 (Strauman, 1989) to 50 (Wonderlich *et al., 2008)* with a mean sample size of 30.

1.7.5.2.3 Gender

Fifteen studies stated the gender of the participants. Two studies (Crane *et al.,* 2008; Strauman, 1989) did not state the gender of the participants. 14 of the studies recruited both male and female participants and one study (Wonderlich *et al.,* 2008*)* only recruited female participants. Thirteen of the studies recruited more female participants than males, ranging from 23% (Kinderman & Bentall, 1996) to 72% female (McColluch *et al.,* 2006) .One study (Kinderman *et al., 1996)* conversely recruited more male participants than female; (77% males) .

1.7.5.2.4 Age

Eleven studies recruited participants between the ages of 18 to 65, with the mean age typically ranging from 19.2 (Cornette, 2009) to 39 (Weilage & Hope, 1999). One study (McColluch *et al., 2006)* recruited participants over the age of 65, with the mean age being 75. Five studies (Alatiq *et al.,* 2010; Bentall *et al.,* 2005; Kinderman *et al.*, 2003; Scott & O'Hara, 1993; Strauman *et al.,* 2001) did not state the ages of the participants.

1.7.5.3 Study design and methodology

Of the 17 articles included in this review, 15 were cross sectional and 2 were longitudinal. The 2 longitudinal studies (Strauman, *et al*. 2001; Crane *et al.*, 2008*)*

were testing the influence of particular psychological interventions (CBT and Interpersonal Psychotherapy and Mindfulness Based Cognitive Therapy) on self-discrepancies at two time points (i.e. pre- and post-intervention).

1.7.5.4 The measurement of self-discrepancies and psychological distress

The tools used to measure both self-discrepancies and psychological distress will be outlined below.

1.7.5.4.1 Self-discrepancy measures

The 17 articles included in the review measured Higgins's self-discrepancies using mainly either Higgins's Selves Questionnaire or modified versions of this.

Nine studies measured Higgins's (1987) self-discrepancies using the Selves Questionnaire and two of these studies administered the Selves Questionnaire via interview rather than the self-rating method. The Selves Questionnaire involves asking the participant to list up to 10 traits or attributes for each of a number of different self-states. For example, it asks the participant to list 10 qualities they believe they actually have, 10 qualities they believe they ought to have and 10 qualities they would ideally like to have. It is administered in two sections, one involving the respondent's own standpoint and the other involving the standpoint of the respondent's parent or a close friend.

The other 6 studies used modified versions of the Selves Questionnaire. Two studies (Kinderman *et al.,* 2003; McColluch *et al., 2006*) used the Self Concept Checklist, which is a modified version of Kinderman and Bentall's checklist (2000), in which they were also provided with a list of 30 positive and 30 negative words to rate their self-concept and self-guides. Two studies (Bentall *et al.,* 2005; Kinderman & Bentall, 1996) used the Personal Qualities Questionnaire. This differed from the Selves Questionnaire as individuals were not asked to make numerical ratings of the degree to which each word describes them, and the 'other' was changed to represent more specifically their parents. One study used the Self-Description Questionnaire (Crane *et al., 2008)* which also asked participants to rate their self-guides in terms of similarity and likelihood of obtaining the self-concept and self-guides in the future, and two studies (Alatiq *et al*., 2010; Vegara-Lopez & Roberts, 2012) used the Self-Discrepancy Questionnaire which was modified from Carver *et al.* (1999) to include another self-guide, the "feared self" and similar to Crane *et al.* (*2008)* ratings of similarity and likelihood.

1.7.5.4.2 Measures of psychological distress

The 17 articles included in the review have examined the role of self-discrepancies across a range of mental health problems. Therefore, each study has used particular psychometric tools to measure the severity of the mental health disorder(s) that they are investigating as well as, in some studies, using the measure to establish whether the participants meet the criteria for the particular mental health disorder. For example, the studies investigating depression used a variety of psychometric tools to measure depression; four studies used the Beck Depression Inventory (BDI) (Fairbrother &

Moretti, 1998; Crane *et al.,* 2008; Strauman *et al.,* 2001), one study (Vegara-Lopez & Roberts, 2012) also used the PHQ-9, and one study (Scott & O'Hara, 1993) used the Inventory to Diagnose Depression.

The three studies investigating psychosis (Kinderman & Bentall, 1996; Kinderman *et al.,* 2003*;* McColluch, *et al.,* 2006) also used the BDI. To establish that the participants met the criteria for psychosis and to establish severity, participants underwent a Present State Examination (PSE, 9th edition; Wing *et al.,* 1974) focusing on questions on delusions and hallucinations (Kinderman & Bentall, 1996), case notes were reviewed and patients interviewed (Kinderman *et al.,* 2003) and participants were asked to complete the Geriatric Mental State Questionnaire (McColluch, *et al.,* 2006), again focusing on questions on delusions and hallucinations.

The two studies investigating bipolar disorder again used the BDI and also the Hamilton Rating Scale for Depression (HRSD). The studies also used the Mood Disorder Questionnaire (Alatiq *et al.,* 2010) and the Mania Scale and Young Rating Scale for Mania (Bentall *et al., 2005)* to measure levels of Bipolarity*.* The two studies investigating social phobia used the Social Avoidance and Distress Scale (Weilage & Hope, 1999) and Social Phobia Scale (Strauman, 1989) to measure levels of social phobia. They also measured levels of depression via the BDI (Weilage & Hope, 1999) and the HRSD (Strauman, 1989).

The study investigating BPD (van den Broeck, 2012) used criteria from the DSM-IV (American Psychiatric Association, 1994) to establish whether participants met the criteria for BPD. In addition they also used the BDI. The study investigating bulimia nervosa also used the DSM-IV (American Psychiatric Association, 1994) to establish that the participants met criteria for bulimia nervosa as well as the Multi-Dimensional Body Self Relations Questionnaire. The study investigating PTSD used the Clinician Administered PTSD Scale 2 to establish that the participants met the criteria for PTSD, and they also used the BDI. The study investigating suicidal ideation (Cornette, 2009) used the Beck Scale for Suicidal Ideation and the Hopelessness Scale and the BDI. The study investigating OCD (Ferrier & Brewin, 2005) used the Padua Inventory to measure levels of OCD and they also used the BDI. To conclude, the majority (12) of the studies used the BDI to measure levels of depression alongside the other measures used.

1.7.5.5 Key findings

All of the articles included in the review have examined the role of self-discrepancies (Higgins, 1987) across a range of mental health problems. This section aims to outline the key findings of these studies in relation to the mental health disorders investigated. The mental health disorders are presented in the same format as they are in the table (see Appendix 2) starting with the disorder most investigated in the articles to the least. The current study will only be focusing on actual: ideal (AI) and actual: ought (AO) self-discrepancies, which will therefore be reflected in the critical review. However, where studies have referred to other self-discrepancies; for example, actual: feared (AF), this will be highlighted in the narrative review which follows.

1.7.5.5.1 Depression

Five of the studies explored the relationship between self-discrepancies and depression (Strauman *et al.*, 2001; Fairbrother & Moretti 1998; Scott and O'Hara, 1993; Crane *et al*., 2008; Vergara-Lopez & Roberts, 2012.) Three of the studies looked at differences between groups in self-discrepancies (Fairbrother & Moretti 1998; Scott & O'Hara, 1993; Vergara-Lopez & Roberts, 2012) and two of the studies looked at the effect of particular psychological therapies on the self-discrepancies of people with depression (Strauman *et al.*, 2001; Crane *et al*., 2008).

The studies that investigated differences between groups in self-discrepancies showed mixed support for the role of self-discrepancies in depression. For example, Fairbrother and Amoretti (1998) and Scott and O'Hara, (1993) reported that participants with depression had larger AI self-discrepancies than controls, $t(65) = 3.67$, $p < .001$; $t(76) = 2.56$, $p < .01$, respectively. Fairbrother & Amoretti (1998) also found this effect with the remitted group, $t(76) = 2.80$, $p < .005$) but it was a smaller effect. However, Vergara-Lopez and Roberts (2012) did not find any group differences in AI self-discrepancies $F(1,81) = 1.43$, $P = .24$.

In relation to AO discrepancies, Scott and O'Hara (1993) reported that participants in the anxious and depressed and anxious group had higher AO self-discrepancies, $t(76) = 1.72$, $p < .05$, than those in the control and depressed only group. Again, Vergara-Lopez and Roberts (2012) did not report any group differences in the AO domain and Fairbrother and Amoretti (1998) did not investigate AO self-discrepancies. Vegara-

Lopez and Roberts (2012) also investigated AF self-discrepancies and reported that participants with a past history of depression had larger AF self-discrepancies than participants without a history of depression, $F(1.81) = 16.40$, $p<01$.

The two studies that investigated the effect of particular psychological therapies (e.g. Interpersonal Psychotherapy, IPT and Mindfulness Based Cognitive Therapy, MBCT) on the self-discrepancies of people with depression found a decrease in self-discrepancies following the psychological interventions. Strauman *et al*. (2001) reported a significant decrease in AI, $F (1.25) = 4.94$, $p<.05$, self-discrepancies following IPT but not in AO. They also reported that participants with depression had a greater AI discrepancy than AO over the study, $F(1.40) =7.71$, $p< .01$, and participants that were more highly self-discrepant showed less improvement than other participants in all conditions, even after controlling for severity. Crane *et al*. (2008) investigated self-discrepancies with participants undergoing MBCT and reported significant time X group interactions for both ideal self-similarity, $F(1.40) =5.15$, $P=.03$, and ideal self-likelihood ratings $F(1.40) = 4.46$, $p=.04$. In addition they reported that changes in self-discrepancy were not associated with changes in residual depressive symptoms, but in the MBCT group Bonferroni-corrected post–hoc comparison revealed that there was a significant association between increases in ideal self-similarity and the adoption of more adaptive ideal self-guides post treatment, $P=.03$.

1.7.5.5.2 Psychosis

Three of the studies examined the role of self-discrepancies in psychosis (Kinderman & Bentall, 1996; Kinderman *et al*., 2003; Mc Colluch *et al*., 2006). The three studies looked at differences between groups in self-discrepancies. Kinderman and Bentall (1996) compared self-discrepancies between participants with paranoia and depression and the control group. Planned pairwise comparisons (Tukey's HSD) revealed that the depressed group, had higher AI and AO self-discrepancies F(2.63)=6.35, p<.05; F(2,57)=11.57,p<.0l respectively) than the paranoid and control groups. The paranoid and depressed group had higher self:parent in AI F (2.52) =9.09, p<.01 and AO F (2.52) =9.43, p<.01 discrepancies than the control group but did not differ from one another.

Kinderman *et al*. (2003) also compared self-discrepancies between groups of participants with delusions and depression and the control group. However, they also compared these differences with before and after the administration of an Emotional Stroop task to investigate whether self-discrepancies change in response to threat-related information. They reported no significant differences between the groups on the AI or self-actual:other-actual domain prior to the task, but after the task they reported that participants differed significantly in both AI, t(12) =2.33, p=.038 and self-actual:other-actual discrepancies.

The McColluch *et al*. (2006) study found that there was a significant three-way interaction of group, time, and type of discrepancy, F(2.40)=3.82, p=.03. The three-

way interaction was due to the depression control group showing an increase over time in AI discrepancies as compared to the other two groups. The depression control group had significantly higher AI discrepancies than both the healthy control t(28)=2.93, p=.0035) and the late-onset psychosis group t(26)=2.74, p=.007. However, there were no group differences in current AO discrepancy scores. The AI discrepancies in the late-onset psychosis group showed similar changes to those of the healthy control group over time, but there was no increase in AO discrepancies over time.

1.7.5.5.3 Bipolar Disorder

Two of the studies examined the role of self-discrepancies in relation to bipolar disorder (Alatig *et al.,* 2010; Bentall *et al.,* 2005). Both of these studies were looking at differences in self-discrepancies between groups, although they investigated different types of self-discrepancies. Alatig *et al.* (2010) compared the self-discrepancies (ideal and feared self-similarity and likelihood) of participants with bipolar disorder with a history of depression (BD), participants with bipolar without a history of depression (BD-HD) and a control group without mental health problems (HC). Bentall *et al.* (2005) on the other hand compared participants in different phases of bipolar disorder (e.g. manic, depressed, remitted and normal) in relation to AI, AO and self-actual:other-actual self-discrepancies.

Alatig *et al.* (2010) reported no significant differences between the BD and HC groups and in relation to ideal and feared self-similarity and likelihood, and no significant

difference between the BD-ND and HC group in relation to ideal self-similarity and likelihood. However, significant differences were reported between the BD-ND and HC in feared self-similarity, t(36) = .2.05, p= .05 and likelihood, t(36) = 2.13, p=.04. In contrast, Bentall *et al.* (2005) reported significant differences between the four groups. In both the AI and AO domain, post hoc comparisons (Tukey's HSD) revealed that the depressed group had larger discrepancies than the other three groups F(3.74) =9.21, p< .005, F(3.74)=6.66, p< .005 respectively, and the manic group had smaller discrepancies than the remitted F(3.74) =9.21,p< .001, F(3.74)=6.66, p< .001 and control group F(3.74) =9.21,p< .001, F(3.74)=6.66, p< .005 respectively, but not the depressed group. They reported no significant differences between the groups in self-actual:other-actual F (3. 74) = 1:23, p >.31.

In summary, Alatig *et al.* (2010) did not find any significant differences between groups in AI similarity and likelihood self-discrepancies (but found a significant difference in feared self-discrepancies). In contrast, it appears that Bentall *et al.* (2005) did find a significant different difference in AI and AO discrepancies and upon comparison found that the depressed group had larger self-discrepancies and the manic group smaller self- discrepancies than the other groups.

1.7.5.5.4 Social Phobia and depression

Two of the studies examined the role of self-discrepancies in social phobia and depression (Strauman, 1989; Weilage & Hope, 1999). Both studies investigated differences in self-discrepancies between groups. Strauman (1989) reported that

participants with depression had larger AI (own) self-discrepancies, F(1,43) =4.06, p<.05) and participants with social phobia had larger AO (other) self-discrepancies, F(1,34) =8.53, p<. 01. Weilage & Hope, (1999) also reported significant differences between groups. For example, participants with social phobia or dysthymia and the comorbid group (with both social phobia and depression) reported greater actual:ought:other (AOO) discrepancies than normal participants. In addition they reported that the comorbid group had larger AI self- discrepancies, F(4,63) =1.90, p<.05) than the other groups.

1.7.5.5.5 Borderline Personality Disorder (BPD)

One study examined the role of self-discrepancies in borderline personality disorder (van den Broeck *et al*., 2012); more specifically they were exploring memory specificity and BPD and their associations with depression and self-discrepancies. Van den Broeck *et al*. 2012 did this by investigating whether there was an association between self-discrepancies and participants with BPD with depression and without depression. This study reported only a significant correlation with the depressed subsample (n=11), between memory specificity and cues relating to highly discrepant domains (i.e. total score of AI, AO and feared self-guides), r= -.89, p<.01. This was also found to be related to depression severity, r = .71, p<.02.

1.7.5.5.6 Bulimia Nervosa

One study examined the relationship between self-discrepancies in bulimia nervosa (Wonderlich *et al*., 2008). This study compared the self-discrepancies between

participants with bulimia to a 'healthy' control group to see if there was a difference between the groups. On comparison, they reported that the BN group scored higher in both AI, F(15,95) =0.70, p<.001 and AO, F(8,45) =-0.46, p=.005 self-discrepancies, relative to the control group. In both studies 1 and 2, individuals with bulimia ideal standards were characterized by more ideal appearance related words than were controls t(71) = 22.68, p=.009, t(47) =23.56; p=.001. However, there were no significant differences between the groups in the proportion of ought appearance related standards, t(71) =20.65, p=.51, t(47) = 21.11; p=.27). Regression analyses appeared to show that higher levels of self-discrepancy were predictive of higher levels of depression, β=0.257, p=.05.

1.7.5.5.7 PTSD

One study examined the relationship between self-discrepancies and PTSD (Sutherland & Bryant, 2008). Thus, this study compared the self-discrepancies of participants with PTSD to participants without PTSD. Participants were reported to have significantly greater AI and AO than non-PTSD participants, t(2,08) =2.12, p=.023, t=(2,26)= 1.29 ,p=.016. Overall, there were greater AI discrepancies than AO. AI discrepancies were also positively correlated with trauma-related memories to positive cues (r=.47, p<.01), PTSD severity (r=0.49, p<.01) and depression (r=.47, p<.01).

1.7.5.5.8 Suicidal Ideation

One study examined the relationship between self-discrepancies and suicidal ideation (Cornette *et al*., 2009). This study aimed to investigate whether there was an association between self-discrepancies and the extent to which individual's experienced suicidal ideation. The study reported an association between AI (r= .29 p<.01), AO (r=.24, p<.01) and actual:ideal:future self-discrepancies and suicidal ideation. AI was not significantly more related to suicidal ideation than AO, but AI was more related to depression, t(149) = 2.04, p<.05. In addition, covariance structure analyses indicated a best fitting model suggesting that AI and actual:ideal:future contribute to hopelessness, which in turn contributes to depression and suicidal ideation. All path coefficients differ significantly from zero at p<.05.

1.7.5.5.9 OCD

One study examined the relationship between self-discrepancies and OCD (Ferrier & Brewin, 2005). This study compared the AI and AF self-discrepancies between three groups (participants with OCD, anxious control (AC) and 'healthy' control (NAC). They found that the OCD group reported intermediate discrepancies and did not differ from the other two groups. Both the OCD group, F(2,60) = 29.89, p<.01 and the AC, F(2,60) = 21.95, p<.01 had significantly larger AI discrepancies than the NAC, F(2,60) = 21.70, p<.01 but did not differ from each other. Contrary to prediction the OCD group was not significantly different from the AC on actual-feared discrepancies, but both groups had significantly smaller discrepancies than the NAC.

1.7.5.6 Strengths and limitations of the studies

The studies' strengths and limitations will now be discussed in relation to the samples in the studies, participants' mental health diagnoses, sample size, gender, age, design and methodology, measurement of self-discrepancies and psychological distress, and key findings.

1.7.5.6.1 Samples included in the studies

1.6.3 This section will provide the strengths and limitations of the studies in terms of the participants' mental health diagnoses, sample size, gender and age.

1.7.5.6.1.2 Participants' mental health diagnoses

The 17 articles included in this review cover 9 mental health disorders, with depression being the most investigated.

The majority of the studies (14) used DSM-III-R or DSM-IV criteria to establish whether participants have a particular "diagnosable" mental health problem (e.g. depression, OCD, bipolar disorder and bulimia nervosa), which was carried out by a clinician. The other two studies (Cornette, 2009; McColluch *et al.,* 2006) used self-report questionnaires specific to the mental health disorder they were investigating. One study (Kinderman *et al.,* 2003) did not use a formal procedure, reviewing case notes and relying on professional judgement to confirm whether they met the criteria for persecutory delusions or depression. Therefore the majority of the studies used the

DSM-III-R or DSM-IV criteria to assess the presence of mental health problems, which means that the reader can be reasonably confident that the samples had the mental health disorder being investigated in relation to self-discrepancies.

The participants in the studies often differed in terms of the severity of their mental health problem and phase of their disorder, with some samples having comorbid mental health problems. For example, in relation to depression, some studies included people experiencing a current depressive episode (Scott & O'Hara, 1993; Strauman, 2001) and some studies included those in recovery or 'remitted' (Crane *et al*., 2008; Vergara-Lopez & Roberts, 2012), while one study (Fairbrother & Amoretti, 1998) included both. Furthermore, it appears that some samples had comorbid depression; for example in Sutherland and Bryant's (2008) sample, 7 out of the 17 participants with PTSD also met the criteria for major depression. In van den Broeck's (2012) sample of participants with BPD, 27 of the 34 participants had comorbid disorders (e.g. 8 with substance misuse, 7 adjustment disorder, 5 with an eating disorder and 5 with a depressive disorder) and with Kinderman and Bentall (1996) their participants with persecutory delusions also had significantly high levels of depression. However, most studies did try to control for this by excluding participants from the study if they had comorbid disorders.

Furthermore, some studies also had a psychiatric comparison group to account for this and some carried out ANCOVAs to account for depression as a covariate, but, without these measures it is difficult to conclude whether the group difference or the association is related to the specific disorder being investigated. However, this is a

common criticism of research and one that is hard to control for as patients typically experience comorbid disorders rather than a single disorder.

The majority of the samples included a 'healthy control' group for comparison (n=11) and some studies also included a psychiatric control group. Thus, the inclusion of a 'healthy' control and psychiatric control demonstrates a group difference and therefore adds further support to the hypothesis that participants with a mental health disorder have significantly different self-discrepancies to the other groups. However, some of the studies did not use a psychiatric comparison (Bentall *et al., 2005; Cornette, 2009;* Mc Culloch *et al., 2006;* Strauman *et al*., 2001) and/or a 'healthy control' (van den Broeck *et al.,* 2012; Cornette, 2009; Strauman *et al.,* 2001; Vegara-Lopez & Roberts, 2012; Sutherland & Bryant, 2008), which limits ability to conclude that the self-discrepancies are related to the specific mental health problems (e.g. bipolar disorder or psychosis) investigated and not to low mood or psychological distress generally.

Furthermore, some of the studies (Alatig *et al.,* 2010; Cornette, 2009; Scott & O'Hara,1993; Vegara-Lopez & Roberts, 2012) used samples of undergraduate students who, whilst they had diagnosable mental health problems, it could be argued that they are still not generalisable to the community sample and the clinical population suffering from depression.

1.7.5.6.1.2 Sample size

The studies had relatively small sample sizes, the lowest total sample size being 27 (Kinderman *et al.,* 2003) and four other studies with similarly small total sample sizes 29, 33, 34, 37 participants (Strauman *et al.,* 2001; Sutherland & Bryant, 2008; van Den Broeck *et al.,* 2012; Strauman, 1989) and a mean of only 66. Furthermore, the individual groups were also small; for example the mental health groups smallest sample sizes was 13 (Kinderman *et al.,* 2003; McColluch *et al.,* 2006), 11 for the psychiatric control groups (Kinderman *et al.,* 2003) and 5 (Strauman, 1989) for the healthy control group, and the mean for the groups were still comparably small (40, 21, 30 respectively). Therefore, a small sample size weakens the statistical power of the study and the conclusions that can be made from the findings as a result. However, some studies had relatively large sample sizes (e.g. 152, Cornette, 2009; 100, Wonderlich *et al*., 2008; 96, Weilage & Hope, 1999; 80, Scott & O'Hara, 1993), which was a strength of these studies.

1.7.5.6.1.3 Gender

The majority of the studies stated the gender of the participants and the number of the number of male and female participants, apart from two studies (Crane *et al.,* 2008 & Strauman, 1989). Overall the majority of the samples included more females than males, but this reflects statistical findings that generally more female access mental health services than males (Mental Health Foundation, 2012). One study recruited only females (Wonderlich *et al., 2008)* but again this reflects findings that more females tend to experience BN than males (NICE, 2004). Two studies (Kinderman *et al.,* 2003; Kinderman *et al.,* 1996) conversely recruited more males than females. Therefore

even though the studies do not have an equal number of male and females, the samples in the studies represent the general mental health population or the particular diagnosis.

1.7.5.6.1.4 Age

The majority of the studies (12) did state the participant's age and all apart from one study (McColluch *et al.,* 2006*)* recruited participants between 18 and 65. However, the older adult population were not equally represented as only one study (McColluch *et al.,* 2006) recruited older adults.

1.7.5.6.2 Design and methodology

The majority of the studies (apart from the two studies looking at the impact of psychological interventions on self-discrepancies) are cross-sectional. By using a cross-sectional study it is only possible to infer vulnerability and difference in the variables across the groups in the studies that may co-occur with diagnostic status, without being related to the specific disorder (e.g. depression). This means that it is not possible to determine the causal relations between the constructs measured or to comment on their etiological role in the various disorders; only longitudinal and experimental designs can evaluate causality effectively.

1.7.5.6.3 The measurement of self-discrepancies and psychological distress

The strengths and limitations of the tools used to measure both self-discrepancies and psychological distress will be outlined below.

1.7.5.6.3.1 Self-discrepancy measures

Most of the studies used the Selves Questionnaire which therefore makes the studies more comparable to critically review. The modified versions of the Selves Questionnaire makes this more difficult as it could be argued that different measurements of self-discrepancies will yield different results, which therefore makes the studies less comparable with one another. However, the modified versions of the Selves Questionnaires still contain the core elements of the original questionnaire. The Selves Questionnaire typically has been modified and this questionnaire had been criticised in the past as not distinguishing between the self-discrepancies. In addition, the questionnaires were modified in some studies in accordance with the particular aims and objectives. For example, Alatiq *et al.* (2010) and Vegara-Lopez and Roberts (2012) used the Self-Discrepancy Questionnaire as they were also investigating the 'feared self'', which the Selves Questionnaire does not include. Bentall *et al.* (2005) and Kinderman and Bentall (1996) used the modified Personal Qualities Questionnaire as they wanted to simplify the Selves Questionnaire and include the 'other' as parents.

1.7.5.6.3.2 Psychological distress measures

The 17 articles used different measures in accordance with the mental health problem they were investigating (see table in Appendix 2). However, 13 of the studies used the BDI II to measure levels of depression; therefore there is some consistency in how psychological distress was measured in relation to self-discrepancies, which makes the studies more comparable with one another as a result.

1.7.5.6.4 Key findings

Overall, it appears that the findings from the 17 studies included in the review indicate that self-discrepancies do play a role in the psychological distress experienced by people with mental health problems. In relation to the studies looking at differences in self-discrepancies between groups, they appear to show that overall participants with mental health disorders have greater self-discrepancies (more so AI than AO) than people without mental health disorders (control groups), and as expected less so with the psychiatric control group. In relation to studies looking at correlation/association between self-discrepancies and psychological distress, they also appeared to show a correlation between self-discrepancies (again particularly AI more than AO) and the mental health disorder being investigated.

Furthermore, participants with depression tended to have greater self-discrepancies than other groups (particularly AI), people with Bipolar (in the manic phase) tended to have lower self-discrepancies than other groups, and depression was overall more highly correlated with self-discrepancies than other mental health disorders. It also

appeared that greater levels of depression were often associated with greater levels of self-discrepancies (particularly AI). Moreover, it appears that particular psychological interventions can be useful in helping to reduce self-discrepancies and in turn psychological distress. However, when considering the findings, one needs to take into account the various methodological and theoretical limitations of the studies included in the review (e.g. overall small sample sizes, no 'healthy' control and/or psychiatric control in some studies and some samples having comorbid disorders), and the fact that some of the studies are not comparable as they are measuring slightly different things and using different measures.

1.7.5.6.5 Summary

The systematic review process indentified 17 articles suitable for the critical review. The studies were critically reviewed in relation to samples in the studies, research design, self-discrepancy measures used, psychological distress measures used, key findings and strengths and limitations. The studies investigated 9 mental health disorders in relation to self-discrepancies, with depression being the most researched (n=5), then psychosis (n=3), bipolar disorder (n=2), social phobia and depression (n=2), with the following disorders having just one study: BPD, bulimia nervosa, PTSD, suicidal ideation and OCD.

Overall, the findings from the 17 studies appeared to indicate that people with mental health problems (particularly depression) have greater self-discrepancies (particularly AI) than people without mental health problems, and the greater the level of

psychological distress the greater the level of self-discrepancies. However, when considering the findings, the various methodological and theoretical limitations highlighted in this section must be taken into account. Although, it appears that the findings are robust enough to indicate that Higgins's (1987) model of self-discrepancies has utility with a clinical population (i.e. people with mental health disorders) and is therefore an effective methodology for the current study to investigate the role of values regarding the psychological distress experienced by people with mental health difficulties.

1.8 CHAPTER SUMMARY

Values have been conceptualised and operationalised in many different ways, so we now have an understanding about how values are defined, developed, differentiated, represented mentally and assessed and measured. The Schwartz (1992, 2012a) model of values has been the most widely tested across cultures, and has the added utility of describing how values relate to each other, and more recently how values relate to behaviour and motivation (e.g. express growth or self-expansion or self-protect), social aspects (e.g. distinction between social and personal focus) and most importantly with relation to the current study how values relate to emotion (e.g. anxiety free and anxiety avoidance). In relation to measurements of values, the PVQ has been widely tested and has been found to be more effective than the SVS and therefore for the reasons stated above, the Schwartz (1992) model of values and the PVQ will be used in this study.

It is evident from the Schwartz model that values act as powerful motivators for behaviour and that people have value priorities. Given this, it is curious that Schwartz's model has to date only been tested on non-clinical populations, as it could provide valuable information about how we understand and treat mental health problems. People with mental health problems are a clinical group that are highly motivated to behave in certain ways is people with mental health problems. For example, anxiety and eating disorders are mental health problems in which people are highly motivated to act in certain ways. For example, people with eating disorders often have perfectionist tendencies and are motivated to achieve, and people with anxiety disorders are motivated with keeping their environment predictable and safe to avoid danger. Given this, it is therefore likely (in accordance with Schwartz's 1992 model of values) that people with eating disorders will have central values centred around the self-enhancement quadrant (particularly achievement) and people with anxiety disorders will have central values centred around the conservation quadrant (particularly security, conformity and tradition).

Schwartz's model highlights how there are values which are compatible and incompatible, and that it is therefore likely that pursing incompatible values could lead to psychological distress, as will behaving incongruently with one's values. In addition, if a person's values are violated or challenged in some way then this could lead to psychological distress. Furthermore, Schwartz argues that certain values (e.g. conformity and security) will motivate you to avoid anxiety with the aim of self-protection, and that certain values (e.g. self-direction and stimulation) will be 'anxiety free' with the aim of self-growth, and that the act of constantly trying to avoid anxiety in an unpredictable world this could lead to psychological distress. Given all of this, it

is likely that pursuing incompatible values, behaving incongruently with your values or having your values violated or challenged could possibly be related to the psychological distress experienced in mental health problems. Various psychological therapies have recognised this, particularly ACT, and this model particularly argues that value incongruent behaviour can lead to psychological distress.

However, this has yet to receive any empirical support with people with mental health disorders. Higgins's (1987) model of self–discrepancies was put forward as the model and methodology to do this as it can be adapted to investigate whether self-discrepancies in values cause psychological distress. Maio and Rees (2009) has been the only study to utilise Higgins's model in relation to values; however, this was done with an undergraduate non-clinical population.

Higgins's model of self-discrepancy has not been tested in relation to values on a clinical population, and therefore the evidence base could not be reviewed in relation to this for the current study. However, Higgins's self-discrepancy theory has been tested in relation to domains of self on various clinical populations (both with physical and mental health problems) and therefore a systematic review was undertaken to consider the application of Higgins's theory in recognised clinical populations (such as mental health disorders) to see if it has utility in these groups as well as other groups (e.g., non-clinical populations such as undergraduates).

The systematic review identified 17 studies and overall they found that that there is evidence to suggest that people with mental health disorders (particularly depression) had greater self-discrepancies than those without. In addition, there appeared to be stronger evidence for AI self-discrepancies and psychological distress than AO, and those studies that included the AF self-discrepancies also indicated this. There is also some evidence, although limited that longitudinal designs involving interventions indicate that particular psychological interventions can help to reduce particular self-discrepancies and in turn psychological distress. However, when considering these findings the limitations of the studies must be taken into account. Although, it appears that the findings are robust enough to indicate that Higgins's (1987) model of self-discrepancies has utility with a clinical population (i.e. people with mental health disorders).

In summary, the study aims to utilise two widely tested and empirically supported models (e.g. the Schwartz,1992 model of values and the Higgins's, 1987) self-discrepancy model) to explore the role of values regarding the psychological distress of people with mental health problems. A more detailed description of the current study specific aims is detailed below.

1.9 INTRODUCTION TO THE CURRENT STUDY

1.9.1 Hypothesis

The following two hypotheses will be put forward for the current study:

Hypothesis one:

a) The mental health groups will hold different central values compared to the reference group.

b) The anxiety disorder group will hold different central values from eating disorder group. More specifically, the anxiety disorder group's values will be within the conservation quadrant (particularly security, conformity and tradition values). The eating disorder group values will be within the self-enhancement quadrant (e.g. achievement values).

Hypothesis two:

a) There will be a difference in value discrepancies between the mental health groups and the reference group.

b) The mental health groups will have higher levels of value discrepancies than the reference group.

.

c) There will be higher AI value discrepancies than AO value discrepancies in all groups.

d) AI value discrepancies will be more associated with depression and AO value discrepancies will be more associated with anxiety.

CHAPTER 2 – METHOD

2.1 INTRODUCTION

This chapter will describe the methods used for this research study, considering the design, sample and measures, the procedure for gathering the data, and clinical governance.

2.2 DESIGN

This study will employ quantitative methodology. A cross-sectional design (between subjects) was used. The data will be analysed using multivariate statistics (MANOVA: refer analysis section).

2.3 POWER ANALYSIS

A power analysis was carried using G Power. The effect size was obtained from a similar study (Ferrier & Brewin, 2005) to the current research. A MANOVA power analysis was carried out with and effect size of 0.19, α =. 0.5, 1-β = 0.95, number of groups were 3 and response variables were 10 (i.e. 10 values). A total sample size of 90 was calculated.

2.4 SAMPLE

The study population comprised of 122 participants containing three groups of adults over the age of 18. Two of the groups were drawn from a clinical population of people with mental health problems, more specifically people with anxiety disorders (n=30) or eating disorders (n=31). The anxiety disorder group was drawn from a sample of people with either obsessive compulsive disorder (OCD) or panic disorder (PD), due to convenience sampling (see recruitment section). The eating disorder group comprised of people with an eating disorder.

The fourth group of participants acted as the reference group of people without mental health problems (n=61) as these were matched as far as possible to the mental health groups in terms of joint sample size, age and gender. The reference group was matched similarly to the samples in Scott and O' Hara (1993) study, which had a similar sample of three groups, two with mental health problems and one control group (see systematic review table in Appendix 2). The reference group was also found to hold similar value priorities to that of cross cultural studies that have tested Schwartz's (1992:2012a) model of values (see discussion chapter). This therefore demonstrates that the reference group is effective for comparison to the mental health groups. The majority of the participants were drawn from a large geographical area in South Wales (participants recruited through the NHS and the reference group) and the wider UK (for participants recruited via the OCD conference and national charities).

The participants' demographic information is outlined in the table below:

Table 2.1: Participants' Demographic information

Group	*N*	*Gender*		*Age*		*Ethnicity*
		N Female (F) Male (M)	**%**	**Mean (SD)**	**Range**	
1: Anxiety Disorders	30	F: 20 M: 10	F: 67% M: 33%	43.9 (12)	18-66	28: White British 2: Not stated
2: Eating Disorders	31	F:30 M:1	F: 97% M: 3%	27.9 (8.6)	18-58	28: White British 1: White Irish 2: Not stated
3: Reference Group	61	F: 41 M: 20	F: 67% M: 33%	43.9 (17.3)	18-70	60:White British 1: Mixed British

Standardised questionnaires were used to establish whether the participants in the mental health groups met the criteria for either an anxiety or an eating disorder. The anxiety disorder group used two questionnaires to establish this; one for the PD participants and one for the OCD participants. The Panic Disorder Severity Scale (PDSS; see Appendix 3) was used to establish that participants met the criteria for PD. The PDSS provides clinical cut-off points and severity guidelines for both people with agoraphobia and people without agoraphobia. The current study did not ascertain whether the participants had agoraphobia or not and therefore it will be presumed that

the sample does not have agoraphobia. The clinical cut off point is thereby 8, with people scoring between 8-10 being considered 'slightly ill', those scoring between 11-15 being considered 'moderately ill' and those scoring between 16 or more being 'markedly ill'. Three participants did not meet the cut-off score and were therefore excluded from the study. This left 18 participants, with the majority of these participants (n=10) falling within the 'markedly ill' range, followed by 7 in the 'moderately ill' range and 1 in the 'slightly ill' range. The mean score was 17.1 (SD=5.2) which falls within the 'markedly ill' descriptor. The scores ranged from 8 to 25.

The Obsessive-Compulsive Inventory (OCI; see Appendix 4) was used to establish which participants met the criteria for OCD. The clinical cut-off point for this questionnaire is 42. Three people did not reach this cut-off score and were therefore excluded from the study, leaving 12 participants. Participants scores ranged from 46 to 147 with a mean score of 94.4 (SD=33).

The Eating Disorder Examination Questionnaire (EDE-Q; see Appendix 5) was used to establish whether participants met the criteria for an eating disorder. The EDE-Q has clinical cut-off points for the four subscales based on the mean item score. Thus, the restraint subscale has a clinical cut off point of 2.6, the eating concern scale has a cut of point of 1.5, the shape concern subscale has a clinical cut-off point of 3.8 and the weight concern subscale has a clinical cut off point off 3. It is not stipulated in the EDE=Q guidance how many of these subscales need to meet the cut-off point to establish that the person has an eating disorder; the current study has therefore set

the criteria that participants scoring below the cut-off point on all four subscales will be excluded from the study.

Four participants did not meet this criterion and were therefore excluded. The majority of the sample (n=17) met the cut-off points for all four subscales, 7 people met the cut-off points for 3 subscales and 7 people met the cut-off score for 1 subscale. 14 participants met the criteria for restraint subscale, all participants met the criteria for eating concern subscale, 25 participants met the criteria for shape concern and 28 participants met the criteria for weight concern. The eating disorder group scored highest in shape concern, then weight concern followed by restraint concern and lastly eating concern.

2.4.1 Inclusion/exclusion criteria

Inclusion

The inclusion criteria for participants included in this study were as follows:

- adults aged 18 and above with a diagnosis of obsessive compulsive disorder, panic disorder or an eating disorder;

- a group of people from a non-clinical population without a known mental health problem.

Exclusion

The exclusion criteria for participants in this study are as follows:

- adults under the age of 18 years old;

- people who do not reach the clinical cut off point for OCD, PD or an eating disorder. This will be established via the standardised questionnaires outlined in the measures section;

- people who have not signed their consent form.

2.5: Measures

The variables under examination in this study are values, anxiety and depression levels and levels of OCD, PD or eating disorder. In addition to the demographic questionnaire, three established questionnaires were used to measure these variables, and these four components comprised the questionnaire battery.

For the mental health groups, the research pack given to the participants consisted of a battery of questionnaires printed over seven sides of A4 paper, alongside the consent form (see Appendix 6), participants' information sheet (see Appendix 7) and a stamped addressed envelope to return the completed questionnaires and consent form to the researcher. The battery, in the order that the measures were presented, comprised (in different formats, depending on the group) the following six measures:

1. Demographic questionnaire: all groups
2. The Portrait Value Questionnaire (PVQ): all groups
3. Hospital Anxiety and Depression Scale (HADS): mental health groups only
4. Panic Disorder Severity Scale (PDSS): PN group only
5. Eating Disorder Examination Questionnaire (EDE-Q): ED group only
6. Obsessive Compulsive Inventory (OCI): OCD group only

However, the reference group (non-clinical) was only asked to complete two questionnaires, namely the demographic questionnaire and the PVQ. They were also provided with the participant information sheet for their information and the consent form to complete. The reference group was only asked to complete two questionnaires, compared to the four in the clinical group, because the purpose of the reference group was to act as reference in comparison to the mental health groups to test only hypothesis one and not hypothesis two in relation to psychological distress (see introduction section 1.10.3).

To reduce any potential burden on participants, measures were selected that had suitable psychometric properties (see measures section), while also being relatively quick and straight-forward for participants to complete.

2.5.1 Demographic questionnaire

All participants were asked to complete a demographic information sheet. The information collected from this questionnaire included the participant's age, gender, and ethnicity (see Appendix 8).

2.5.2 Values Questionnaire

2.5.2.1 PVQ

The PVQ (see Appendix 9) was completed by all participants (n=158) as participants values were used to test both hypotheses. The PVQ was adapted in the current study to incorporate the Higgins (1987) model of self-discrepancies. The changes made to the PVQ for the purpose of this study will be outlined, but first the original PVQ will be described. The Portrait Values Questionnaire (PVQ) is an alternative to the SVS (see introduction), which has been developed to also measure the ten basic values in samples of children from age 11, of the elderly, and of persons not educated in Western schools that emphasize abstract, context-free thinking. The PVQ is thus more concrete than the SVS and uses examples of each value; the rating scale is also more simplistic.

The PVQ includes short verbal portraits of 40 different people, gender-matched with the respondent (Schwartz, 2005b; Schwartz *et al*., 2001). Each portrait describes a person's goals, aspirations, or wishes that point implicitly to the importance of a value. For example: "Thinking up new ideas and being creative is important to him. He likes to do things in his own original way" describes a person for whom self-direction values

are important. For each portrait, respondents answer: “How much like you is this person?” Responses from which people can choose are: very much like me, like me, somewhat like me, a little like me, not like me, and not like me at all. Thus, respondents’ own values are inferred from their self-reported similarity to people described implicitly in terms of particular values. The number of portraits for each value ranges from three (stimulation, hedonism, and power) to six (universalism), reflecting the conceptual breadth of the values. The score for the importance of each value is the average rating given to these items, all of which were designated a priori as markers of a value. The ten values are ranked in terms of importance from the highest (1st) to lowest score (10^{th}).

The PVQ has been adapted in various ways for this study. For example, for this study the rating scale (see figure 5) has been changed to: Not at all (1), 2, somewhat (3), 4 and very much (5). The rating scale has been changed to incorporate Higgins’s model of self-discrepancies (more specifically participants’ actual/own, ideal/own and ought/own self-state representations). This has been achieved by asking the participants to answer three questions for each verbal portrait (see figure 2.1): a) How much <u>are you</u> like this person? b) <u>Ideally,</u> how much would you be like this person? and c) How much <u>should</u> you be like this person? The scale is devised to test for AI discrepancies or AO discrepancies between participants’ values.

Figure 2.1: Example of one of the questions in the adapted PVQ (female version)

Question	**Answer**				
1) Thinking up new ideas and being creative is important to her. She likes to do things in her own original way.	**Not at all 1**	**2**	**Somewhat 3**	**4**	**Very much 5**
a) How much <u>are you</u> like this person?					
b) <u>Ideally,</u> how much would you be like this person?					
c) How much <u>should</u> you be like this person?					

Participants were provided with the following instructions to complete the PVQ:

Figure 2.2: Instructions displayed on the PVQ

Instructions:

Here we briefly describe some people. Please read each description and think about how much each person:

(a) Is <u>actually</u> like you (e.g. has the beliefs and/or behaves as you actually do in reality).
(b) Is <u>ideally</u> like you (e.g. has the beliefs and/or behaves as you would ideally wish to).
(c) Is what you <u>should</u> be like (e.g. has the beliefs and/or behaves as you should do, but do not always do in reality)

Put an **X** in the box to the right that shows how much the person in the description is like you.

The PVQ was calculated for the current study in relation to the ten values and for value discrepancies to test the hypotheses. The ten values in the current study were calculated for each participant in the same way as the original PVQ, with the exception of only the scores relating to actual domain being calculated (i.e. question a: how much

are you like this person?). For example, the 10 values were calculated by getting a mean score of the questionnaire items related to the value. Conformity is calculated by getting a mean score of items 7a, 16a, 28a and 36a on the PVQ (see Appendix 10 for scoring sheet). A mean was calculated rather than the sum, as the values were comprised of differing numbers of items from the questionnaire.

The ten values in the current study were ranked in terms of importance in the same way as the original PVQ; from the highest scoring value (1^{st}) to the lowest (10^{th}), with the exception of the current study only ranking the groups 10 values rather than the individual participants, as this study was interested in looking at group difference rather than individual participants' differences. Furthermore the top 3 values were considered the groups central values and the remaining 7 were considered the groups peripheral values in line with Rokeach's (1973) model of central and peripheral values (see introduction).

The AI and AO value discrepancy scores for each of the 10 values were calculated differently in the current study to the original Selves Questionnaire. This is because this study was not looking at traits, but rather was looking at values and utilising rating scales. The AI score was calculated by subtracting the actual mean item value score from the ideal mean item score, and the AO score was similarly calculated by subtracting the actual mean item value score from the ought mean item value score. For example, (Conformity actual-Conformity ideal =AI Conformity). This method for calculating discrepancies was taken from Higgins *et al.* (1997) Regulatory Focus Strength Measure.

The PVQ has been found to have good internal reliabilities and good convergence with the original SVS (Schwartz, 2005b). In addition, the PVQ thus far has yielded stronger evidence of fit to the model in the countries in which it has been used, including Uganda and South Africa (Schwartz *et al*., 2001). All of the value items have demonstrated near equivalence of meaning across cultures in analyses using multi-dimensional scaling (Schwartz, 2006a). The designers of the European Social Survey (ESS) chose the PVQ as the basis for developing a human values scale to include in the survey. The ESS version includes 21 PVQ items, with a few revised in order to better cover the content of the ten different values.

2.5.3 Distress Questionnaire

2.5.3.1 HADS

The HADS was only completed by the mental health groups (n=61) as the HAD was only used to test hypothesis two (d) which does not entail a comparison to the reference group. The HADS (Zigmond & Smith, 1983) (see Appendix 11) is a 14 item self-report questionnaire used to measure a brief state of both anxiety and depression. Zigmond and Smith (1983) initially developed this tool to detect anxiety and depression in people with physical health problems. However, it has since been used in a variety of both physical and mental health settings to detect levels of anxiety and depression.

The questionnaire consists of seven items related to anxiety and 7 items related to depression. Each item on the questionnaire is scored on a 0-3 (not at all, from time to time, occasionally, a lot of the time and most of the time) and this means that a person

can score between 0 and 21 for either anxiety or depression. The scale used is like a Likert scale and therefore the data returned from the HADS is ordinal.

A number of researchers have explored HADS data to establish the cut-off points for 'caseness' of anxiety or depression. Bjelland *et al*. (2002) completed a review of 747 identified papers that utilised the HADS and they found that most factor analyses demonstrated a two-factor solution in good accordance with the HADS subscales for Anxiety (HADS-A) and Depression (HADS-D) respectively. The correlations between the two subscales varied from .40 to .74 (mean .56). Cronbach's alpha for HADS-A varied from .68 to .93 (mean .83) and for HADS-D from .67 to .90 (mean .82). In most studies an optimal balance between sensitivity and specificity was achieved when caseness was defined by a score of 8 or above on both HADS-A and HADS-D. The sensitivity and specificity for both HADS-A and HADS-D of approximately 0.80 were very similar to the sensitivity and specificity achieved by the General Health Questionnaire (GHQ). Correlations between HADS and other commonly used questionnaires were in the range 0.49 to 0.83.

2.5.4 Establishment of Clinical Groups

The following questionnaires (PDSS, EDE-Q and OCI) were only used to establish whether the participants met the criteria for either the anxiety disorder or eating disorder group; these measures were not used in statistical analysis to test the hypotheses.

2.5.4.1 PDSS

The PDSS was completed by participants with PD (n=18) to establish that they met the criteria for the anxiety disorder group. This measure was developed by Shear *et al.* (1997) (see Appendix 3) to measure severity of panic disorder. The PDSS is a clinician-administered interview, intended to assess severity and considered a reliable tool for monitoring of treatment outcome. For this study, it will not be clinician-administered; it will be used as a self-report measure. There is a PDSS self–report measure (PDSS-SR), but it consists of only five items, having excluded the items assessing social and occupational interference.

The PDSS consists of seven items, each rated on a 5-point scale, which ranges from 0 to 4. The items assess panic frequency, distress during panic, panic-focused anticipatory anxiety, phobic avoidance of situations, phobic avoidance of physical sensations, impairment in work functioning, and impairment in social functioning. The overall assessment is made by a total score, which is calculated by summing the scores for all seven items. The total scores range from 0 to 28. Scores 9 and above suggest the need for a formal diagnostic assessment.

Furukawa *et al*. (2009) devised an evidence-based guideline for developing the scores. The interpretation of the PDSS total score differed according to the presence or absence of agoraphobia. When the patients were not agoraphobic, score ranges 0-1 corresponded with "Normal," 2-5 with "Borderline," 6-9 with "Slightly ill," 10-13 with "Moderately ill," and 14 and above with "Markedly ill." When the patients were

agoraphobic, score ranges 3-7 meant "Borderline ill," 8-10 "Slightly ill," 11-15 "Moderately ill," and 16 and above "Markedly ill."

Shear *et al*. (1997) administered the PDSS to 186 participants with panic disorder. Although the study found relatively low internal consistency (Cronbach's alpha of 0.65), significant correlations between the PDSS and similar measures were found, demonstrating acceptable convergent validity. Despite the significant results, however, some correlations were lower than might be expected (i.e. significant correlations ranged from 0.15 to 0.78). In a subsequent study evaluating 54 participants with current panic disorder, Shear *et al*. (2001) reported that the PDSS demonstrated acceptable test–retest and inter-rater reliability, and high internal consistency (i.e. Cronbach's alpha of 0.88). The PDSS also showed evidence of good convergent validity, correlating moderately with comparable measures such as the Beck Anxiety Inventory (BAI; Beck & Steer, 1993; r = 0.67) and Anxiety Sensitivity Index (ASI; Peterson & Reiss, 1993; r = 0.54).

Furthermore, the PDSS has been widely used (e.g. Austin & Richards, 2006; Carrera *et al.,* 2006; Huppert *et al*., 2006; Pollack *et al.,* 2007) and translated into multiple languages (e.g. Spanish, Finnish, Italian, Korean; Lim *et al.,* 2007; Shear *et al.,* 2001). When the reliability and validity of the PDSS were evaluated after its translation into other languages, results again showed acceptable reliability and validity as well as sensitivity to change (Lim *et al.,* 2007; Monkul *et al.,* 2004; Yamamoto *et al.,* 2004).

2.5.4. 2 EDE-Q

The EDE-Q was completed by participants with eating disorders (n=31) to establish whether they met the criteria for the eating disorder group. The EDE-Q 6th Version (Fairburn, 2008; see Appendix 5) was adapted from the Eating Disorder Examination interview (EDE-Q). The EDE-Q is a 41 item self-report questionnaire. It retains the same format of the EDE-Q including the 4 subscales (restraint, eating concern, shape concern and weight concern) and a global score. It also measures behaviours over a 28 day period and retains the scoring system of 0-6 with 0 indicating no days, 1 = 1-5 days, 2 = 6-12 days, 3 = 13-15 days, 4 = 16-22 days, 5 = 23-27 days and 6 being every day.

Berg *et al.,* (2012) carried out a study which systematically reviewed the reliability of scores on the EDE and the EDE-Q with the aim of examining the validity of their use as measures of eating disorder symptoms. They identified 10 studies that examined the EDE-Q and found the data provide support for the test–retest reliability of the EDE-Q subscale scores and of scores on the following behaviour frequency items: objective bulimic episodes, self-induced vomiting and laxative misuse. However, there is preliminary support for the test–retest reliability of scores on the items that assess the frequency of subjective bulimic episodes, objective overeating episodes and diuretic use. These data provide support for the temporal stability of the subscale scores over 5 to 14 months, but scores on the behavioural frequency items do not demonstrate temporal stability.

2.5.4.3 Obsessive Compulsive Inventory (OCI)

The OCI was completed by participants with OCD (n=12) to establish whether they met the criteria for the anxiety disorder group. The OCI (Foa *et al*., 1998) (see Appendix 4) consists of 42 items composing 7 subscales: Washing, Checking, Doubting, Ordering, Obsessing (i.e. having obsessional thoughts), Hoarding, and Mental Neutralizing. Each item is rated on a 5-point (0-4) (0 = Never and 4 = Almost Always) Likert scale of symptom frequency and associated distress.

Excellent internal consistency has been found for the OCI Total frequency (0.93) and Total distress (0.92) scores in a sample of patients with OCD (Foa et al, 1998). Internal consistency ranged from 0.72-0.96 for sub-scale frequency ratings and 0.68-0.94 for sub-scale distress ratings. Foa et al (1998) also found the OCI Total scores to have high test-retest reliability in an OCD sample (r = 0.84 for Total frequency and r = 0.87 for Total distress) and in non-patient controls (r = 0.90 for Total frequency and r = 0.89 for Total distress). Sub-scale scores also demonstrated high test-retest reliability in an OCD sample (ranging from r = 0.79-0.95 for sub-scale frequency scores and r = 0.77-0.97 for sub-scale distress scores) and in non-patient controls (ranging from r = 0.82-0.90 for sub-scale frequency scores and r = 0.68-0.89 for sub-scale distress scores). The total frequency and total distress OCI scores also discriminated between those with OCD and those with PTSD, Generalised Social Phobia or no anxiety. This was also found for all sub-scales except Hoarding.

2.6 RECRUITMENT

The participants in the clinical groups were recruited via convenience sampling from various mental health services within two NHS local health boards, including Community Mental Health Teams (CMHTs), the Eating Disorder Service and from two self–help groups for people with OCD and PD. Participants were also recruited from a national OCD conference and from two national charities via an advert on the Internet (see Appendix 12). Twenty five research packs were also sent to participants on one of the charities' research database via a contact at the charity. The adverts provided potential participants with basic information about the research and details to contact the researcher if they were interested in taking part via email or by telephone. The researcher then sent research packs by post to participants who had contacted her. 301 research packs were sent out and 73 participants took part in the research. A further 12 were excluded from the study due to falling below the cut-off score for the measure (n=9) or because a large amount of data was missing (N=3), leaving a total sample size of 122. They were recruited from the above populations because of the nature of the current study (see introduction).

The reference group was obtained from a community sample. They were randomly selected by the community panel co-ordinator and then sent an email asking them to take part in the study via Psychsurveys online. 250 invitations were sent to the participants selected in the community panel and 76 participants took part. Only 61 participants were included in the study as this number was only needed to match the mental health groups' sample size.

2.7 PROCEDURE

As stated in the recruitment section above, the participants in the mental health groups were recruited from various mental health services, self-help groups, an OCD conference and two national charities. For the CMHTs, eating disorder service and self-help groups, the researcher gave the research packs to the clinical contacts/local collaborators (i.e. nominated mental health professionals within the above services or self help groups) to give to the participants. For the OCD conference, the researcher was provided with a research stand to recruit potential participants during the conference breaks. If participants were interested in taking part in the research they were provided with a research pack including a stamped addressed envelope to return the questionnaires and consent form in their own time.

Participants were also recruited via two national charities by adverts on their website and monthly newsletter (see Appendix 12). Twenty five research packs were also sent to participants at one of the charities research database via a contact at the charity. The adverts provided potential participants with basic information about the research and details to contact the researcher if they were interested in taking part. The researcher then sent research packs by post to participants who contacted her.

The research packs for the mental health groups contained the following items: participant information sheets (see Appendix 7); consent forms (see Appendix 6); a battery of questionnaires (see Measures section) and a stamped addressed envelope with which to return the completed questionnaires to the researcher.

On the participant information sheet, the participants were asked to complete the questionnaire as soon as possible; they were also informed that the questionnaires should take no longer than half an hour to forty five minutes to complete and that they were anonymised. Once the researcher received the completed research packs from the participants, the consent forms were separated from the questionnaires to ensure anonymity. The data from the questionnaires was then entered into the Statistical Package for Social Sciences Version 20 (SPSS 20) for analysis.

The reference group was obtained from a community sample. Participants were randomly selected by the community panel co-ordinator, and the researcher then sent an email to the selected participants asking them to take part in the study on line via Psychsurveys. The participants were also provided with a participant information sheet (see Appendix 13) and consent form (see appendix 14). Once the participants had completed the questionnaires the data was entered into SPSS for analysis.

2.8 DATA ANALYSIS

The current study employed quantitative methodology because the data (people's values, self–discrepancies and psychological distress levels) is being obtained via standardised questionnaires (see measures section).

The quantitative data was inputted into SPSS, which was then used for storage and analysis. The data was analysed using mainly multivariate statistics (MANOVA) as the hypotheses was testing whether there were any differences between independent groups (i.e. the anxiety disorder, eating disorder and reference group) on more than one continuous dependent variable (i.e. Schwartz's 10 values) simultaneously. Paired Sample t-tests were also used for hypothesis 2 (c) as opposed to a MANOVA because it was it was testing whether just two means are different (e.g. the actual:ideal grand mean and the actual:ought grand mean), and not several means (e.g. 10 values).

A Paired Sample t-test was used as opposed to an Independent Sample t-test as the same participants underwent the same conditions (e.g. completing the PVQ). A Spearman's Correlation Coefficient (one tailed) was used for hypothesis 2(d) as this was investigating the relationship between self-discrepancies in values and psychological distress. A one tailed as opposed to a two tailed Spearman's correlation was used as the hypothesis is stating the direction of the outcome. A Spearman's was used as opposed to the Pearson's Correlation Coefficient as the data was not normally distributed.

2.9 CLINICAL GOVERNANCE

2.9.1 Informed consent

All potential participants were provided with participant information sheets (see Appendix 7 and 13) explaining the exact nature of the study and what taking part in the research involved. Participation in the study was entirely voluntary for participants. Issues of informed consent were fully explained. Participants were made aware that

they could withdraw from the study at any time, and that participation/nonparticipation would not affect the mental health's groups' treatment in anyway.

Participants from the mental health groups were asked to sign a consent form and a paper copy of the consent form, and participants from the reference group were asked to provide consent by clicking the relevant box on the online survey (see Appendix 14) before completing the questionnaires. Participants were also informed in the participation sheet that, before taking part in the research, they could discuss and/or ask any questions about the study to the researcher or her supervisors (via telephone or email) if they wished to do so.

2.9.2 Anonymity and confidentiality

The participants were not asked to provide any personal details whilst completing the questionnaires, thus ensuring anonymity. The participants from the clinical groups were provided with an SAE to return the questionnaire to the researcher. Once the researcher had received the research packs, she separated the consent forms from the questionnaires to ensure anonymity was maintained. The questionnaires and consent forms were stored separately and securely at the researchers' training course base in a locked filing cabinet.

Participants from the reference group are members of a research community panel, so have given permission for their contact details to be passed on to potential

participants. Their names and email addresses were stored securely on Psychsurveys, which was password protected.

2.9.3 Participants' well being

It was not anticipated that the research would cause participants to become distressed. However, there was also a possibility that completing this questionnaire may have become distressing for a few people. If this were to happen, the participants were advised via the participants' information sheet that they could contact the researchers' Academic Supervisor, who was a Consultant Clinical Psychologist, to discuss the issues raised in more depth.

2.10 ETHICAL APPROVAL

Authorisation to conduct the research was obtained through application to the NHS Research and Development Department of the Local Health Board. After reviewing the proposal, the LHB's Research and Development Committee granted approval for the study to be completed (see Appendix 15), Approval was also granted from the Local Research Ethics Committee (see Appendix 16). Ethical approval was also granted from a University Ethics Board for the reference group to be obtained from the community panel (see Appendix 17).

CHAPTER 3 – RESULTS

3.1 INTRODUCTION

This chapter will describe the results of the study. The chapter starts by explaining the steps taken to ensure the quality of the data was sufficient for statistical tests used. For example, this section details how the data was screened for missing data and outliers, then how the data met the assumptions for conducting the particular statistical tests. The descriptive statistics will then be outlined for the sample and measures used. The chapter then moves on to the statistical analysis, where the results will be reported in relation to the two main hypotheses.

Statistical Package for the Social Sciences (SPSS, Version 20) was used for data screening, descriptive and inferential statistics and to test the assumptions for the multivariate statistics.

3.2. DATA SCREENING

This section describes how the data was prepared for statistical analyses by screening for missing data, outliers and by checking that the data met the assumptions for conducting the statistical tests

3.2.1 Missing Data Imputation

The complete dataset was screened for missing values, and the following section outlines how missing values were handled. The missing values were coded as '666'

in SPSS to distinguish them from the other data. Firstly, the data was visually scanned for missing data and as a result two cases (from the eating disorder group) were removed from the data set as they contained a large amount of missing data for the PVQ.

Missing Values Analysis (MVA) was conducted on the dataset, which showed that there were no variables that had 5% or more missing for the PVQ and for the HADS Variables.

It was found that data was both Missing Not at Random (MNAR) and Missing at Random (MAR). The MNAR data was where one participant did not complete the *ideal* and *ought* ratings for each question on the PVQ, but did complete the actual ratings. Therefore, a ListWise Deletion approach was taken, and the participant's data was included to test Hypothesis One, but the relevant data was excluded for Hypotheses Two as this is in relation to self-discrepancies (PVQ) where ideal and ought data was missing.

The remaining missing data was Missing at Random (MAR). Thus, one participant's missed three questions out at random, four participants did not complete one question(s) out at random, and two participants did not complete part of one question (e.g. PVQ5a). The HADS data for one participant's data was also MAR as they did not complete one question. Rubin *et al.* (2007) suggests expected Maximisation is the most effective method for handling missing data when over 5% of the data is missing;

however, the MAR data in the PVQ and HADS is less than 5% and therefore EM was not used for the missing data in this study.

3.2.2 Outliers

Extreme values analysis was conducted using the Missing Value Analysis and no extreme values were found in either the PVQ or HADS.

For the PVQ raw data, 2 outliers were found when screening for outliers via inspection of boxplots and histograms on SPSS. A value of 44 was found which was changed to 4 and a value of 6 was found which was changed to 5. The grand mean data for each value was also screened and two outliers were indicated for Actual:Ideal (AI) and Actual:Ought (AI) data sets. These outliers were changed to the mean plus two standard deviations as suggested by Field (2009). No outliers were found for the HADS.

3.2.3 Tests of Multivariate Assumptions

To test that the data meets the assumptions for conducting multivariate statistics (e.g. MANOVA), the PVQ and HADS data was best tested for nine assumptions as detailed below.

1) The two or more dependent variables should be measured at the interval or ratio level.

The data from the PVQ and HADS are interval data as participants were asked to rate each question on a scale of 1-5 or 0-3 respectively. Although, there has been much controversy about whether single item rating scales are interval or ordinal data (Field, 2009), because for it to be interval data there must be equal intervals between the points on the scale (i.e. on the HADS, the scale is from 0-3 and the difference between and 1 and a 2 must be the same as between a 2 and 3) and this can be difficult to ascertain. However, it is common practice in research to consider these scales as interval data in order to carry out statistical analysis. For example, several of the studies outlined in the systematic review (see introduction chapter) have also made the assumption that their dependent variables are measured by interval data in order to carry out a MANOVA. For example, Strauman, *et al.* (2001), Kinderman & Bentall (1996), Bentall *et al.* (2005) and Strauman (1989) used the Beck Depression Inventory which is based on 0-3 scale, similar to the HADS.

2) The independent variable should consist of two or more categorical, independent groups.

The independent variable was three independent groups, namely the anxiety disorder group, eating disorder group and reference group.

3) There should be independence of observations

There was no relationship between the observations in each group or between the groups as there were different participants in each group and no participant was in more than one group.

4) There should be an adequate sample size.

Power analysis (see method section) reveals that there is an adequate sample size. In addition, there are more cases in each group than the number of dependent variables being analysed. Thus, a power analysis (see method chapter) indicated a total sample size of 90; the current study has a total sample size that is larger than this (n-122), therefore this assumption has been met.

5) There are no univariate or multivariate outliers

As discussed in section 3.2.3.2, outliers were identified and changed.

6) There is multivariate normality

The normality of the variables was assessed through examination of histograms and also using the Kolmogorov-Smirnov statistical test (K-S test) (See Appendix 19). The data was examined at the group level as Field (2009) suggests that the K-S tests are not as effective on a larger sample. It was found that about a quarter of the data was not normally distributed.

In order to standardise the reported values for skewness and kurtosis (Appendix 18), they were converted to *z*-scores by dividing the standard error of skewness or kurtosis, as recommended by Field (2009). This has been done on the group data as Field (2009) advises that tests of Skewness and Kurtosis are not as effective on large samples. Therefore Skewness and Kurtosis have been tested on the group data for each of the ten values on the PVQ and for anxiety and depression in the HADS. Field (2009) suggests that z-scores greater than 1.96 for both skewness and kurtosis should be considered significant at the $p<0.05$ level. It was found that the majority of the data was not skewed or kurtotic for the PVQ and HADS but that some were (see Appendix 18). For example, in one group (groups differed for each value), tradition, benevolence, hedonism, achievement and power were skewed.

Therefore the normality assumption was considered not to be met. Transformation of the data was considered but was not undertaken for several reasons. Firstly, Tabachnick and Fidell (2006) argue that when the scale is meaningful and widely used, as the PVQ is, then transformation can hinder interpretation. Secondly, the above normality tests were done on grouped data (means of the values) and with grouped data Tabachnick and Fidell (2006) argue that "the assumption of normality is evaluated with respect to the sampling distribution of means (not the distribution of scores) and the Central Limit Theorem predicts normality with decently sized samples" (p86). Thirdly, Grayson (2004) warns against transforming the data as, for example, log transformation changes from the arithmetic means to geometric means and transformation also means that you are addressing a different construct to the one originally measured, which has implications for interpreting the data (Grayson, 2004).

Furthermore, it is argued that F tests (i.e. MANOVA) are fairly robust even when the assumptions are broken (Field, 2009). Thus, Finch (2005) compared parametric tests (I.e. MANOVA) to nonparametric tests when assumptions for normality are violated and found that the parametric test outperformed the nonparametric tests in type1 error and power

7) There is a linear relationship between each pair of dependent variables for each group of the independent variable.

Inspection of the scatterplot matrix indicated that there is linearity for each pair of dependent variables. In addition, on the correlation matrix (see assumption 9 below) the variables are correlated and are therefore linear.

8) There is homogeneity of variance-covariance matrices

To test the assumption of Homogeneity of variance, Box‘s M test of equality of covariance matrices was carried out (see Appendix 20) and it was found that the actual and ideal and ought data was not significant ($p>.057$, $p>.39$, $p<.017$ respectively) at the $p<.001$ level (as suggested by Field, 2009). The HADS data was also not significant $p>.14$. Therefore the data has met the assumption of Homogeneity of Variance.

9) There is no multicollinearity

There was no multicollinearity, as the dependent variables (i.e. 10 values) were not too highly correlated (e.g. above 0.9; see table 3.10 in descriptive statitsics). The highest correlation was at 0.58.

3.2.4 Statistics summary

The data has been found to meet all of the assumptions apart multivariate normality have been met for MANOVA. The option of transforming the data was considered as some of the data is not normally distributed, but this was not carried out for several reasons which have been highlighted above on assumption six.

3.3 DESCRIPTIVE STATISTICS

The descriptive data will be presented to describe, illustrate and summarise the data collected from the demographic information for the participants and for the measures used (e.g. the PVQ and HADS).

3.3.1 Participants

Data was collected from three groups of participants: the Anxiety Disorder group, Eating Disorder group and the Reference group. All demographic information collected can be viewed in Table 3.1. There were 122 participants in total; 30 participants in the anxiety disorder group, 31 in the eating disorder group and 61 in the reference group.

Table 3.1: Demographic information of the participants in the study

Group	*N*	*Gender*		*Age*		*Ethnicity*
		N Female (F) Male (M)	**%**	**Mean (sd)**	**Range**	
1: Anxiety Disorders	30	F: 20 M: 10	F: 67% M: 33%	43.9 (12)	18-66	28: White British 2: Not stated
2: Eating Disorders	31	F:30 M:1	F: 97% M: 3%	27.9 (8.6)	18-58	28: White British 1: White Irish 2: Not stated
3: Reference Group	61	F: 41 M: 20	F: 67% M: 33%	43.9 (17.3)	18-70	60: White British 1: Mixed British
Total	122	F: 91 M: 31	F: 75% M: 25%	39.8 (15.8)	18-70	116: White British 1: White Irish 1: Mixed British 4: Not stated

In the anxiety disorder group there were 20 females (67%) and 10 male (33%), in the eating disorder group there were 20 (97%) females and one male (3%) and in the reference group there were 41 females (67%) and 20 males (33%). In total there were 91 (75%) females and 31 males (25%). The participants in the anxiety disorder group were aged between 18 and 66 with a mean age of 43.9 (sd=12), participants in the eating disorder group were aged between 18 and 58 with a mean age of 27.9 (sd=8.6) and participants in the reference group were aged between 18 and 70 and

with a mean age of 43.9 (17.3). The total sample age ranged from 18-70 with a mean age of 39.8 (SD=15.8).

A one-way ANOVA was used to look at differences between the groups in age and gender. See section 3.2.3. in this chapter for how the data met the assumptions for this test (e.g. normality distribution, homogeneity of variance as group sizes are unequal and the independence and interval assumption)

One-way ANOVAs indicated that there were group differences for age, $F(2,119) = 14.59$, $p<.001$. A Bonferroni post-hoc test indicated that the eating disorder group was significantly different in age to the anxiety disorder group $p<.001$ and the reference group $p<.001$, but the anxiety disorder group and the reference group were not significantly different $p=1.00$. In relation to gender, similar group differences were found, $F(2,119) = 5.78$, $p=.004$. Thus, the eating disorder group was significantly different in age to the anxiety disorder group $p=.018$ and the reference group $p=.006$, but the anxiety disorder group and the reference group were not significantly different $p=1.00$. Thus, the eating disorder group appears to be statistically different in age and gender to both the anxiety disorder and reference group, but the anxiety disorder and reference group did not differ. This reflects a typical trend of people with eating disorders being predominantly young females (Smink *et al.,* 2012).

The majority of the total sample was white British (n=116), 1 was white Irish, 1 was mixed British and 4 did not state their ethnicity. 28 participants in the anxiety disorder

group were white British and 2 did not state their ethnicity. The eating disorder group had 28 participants who were white British, 1 participant who was white Irish and one participant who did not state their ethnicity. Sixty participants in the reference group were white British and one participant described themselves as 'mixed British'.

3.3.2. Measures

Descriptive data for the two dependent variables, the PVQ and the HADS, are presented in the tables 3.2 to 3.14. The mean scores, standard deviations, and range obtained from the three groups are presented for each measure.

3.3.2.1. PVQ

The PVQ descriptive data will be presented in 3 sections. The first section will present the data for the actual, ideal and ought self concept and self guides and the second section will present the actual, ideal and ought value priorities between and within the three groups. The third section will present the data for the Actual:Ideal (AI) and Actual:Ought (AO) value discrepancies.

3.3.2.1.2 PVQ descriptive data

Tables 3.2, 3.3 and 3.4 presents the mean, standard deviation and range for each value for each group. This will be presented for the Actual, ideal and ought scores.

Table 3.2 Descriptive data for the actual values for each group: Mean (standard deviation) and range

Values	Anxiety Disorder Group			Eating Disorder Group			Reference Group		
	Mean	**sd**	**Range**	**Mean**	**sd**	**Range**	**Mean**	**sd**	**Range**
Conformity	*3.71*	85	1.75-5.00	3.44	92	1.00-4.75	3.37	.82	1.25-5.00
Tradition	*2.96*	*.84*	*1.50-4.50*	*2.78*	*.87*	*1.25-4.50*	*2.56*	*.70*	*1.25-5.00*
Benevolence	*3.88*	*.68*	*2.75-5.00*	*3.88*	*.85*	*1.25-5.00*	*3.55*	*.70*	*2.25-5.00*
Universalism	*3.74*	*.70*	*2.33-5.00*	*3.46*	*.60*	*2.33-5.00*	*3.66*	*.66*	*2.33-5.00*
Self-direction	*3.29*	*.98*	*1.00-5.00*	*3.60*	*.99*	*1.75-5.00*	*3.93*	*.58*	*2.75-5.00*
Stimulation	*1.84*	*.82*	*1.00-4.33*	*2.34*	*1.18*	*1.00-4.67*	*2.80*	*.82*	*1.33-4.67*
Hedonism	*2.18*	*.98*	*1.00-4.67*	*2.42*	*1.11*	*1.00-4.67*	*3.05*	*.50*	*1.00-4.00*
Achievement	*2.19*	*.96*	*1.00-5.00*	*3.21*	*1.38*	*1.00-5.00*	*2.96*	*1.07*	*1.00-5.00*
Power	*1.89*	*.81*	*1.00-3.67*	*2.06*	*1.38*	*1.00-5.00*	*2.96*	*1.07*	*1.00-5.00*
Security	3.36	.70	2.20-5.00	2.84	.56	1.20-4.20	3.26	.71	1.80-5.00

Table 3.3 Descriptive data for the ideal values for each group: Mean (standard deviation) and range

Values	Anxiety Disorder Group			Eating Disorder Group			Reference Group		
	Mean	**Sd**	**Range**	**Mean**	**Sd**	**Range**	**Mean**	**Sd**	**Range**
Conformity	*3.53*	.85	2.00-5.00	*3.39*	.79	1.75-4.75	3.23	.77	1.50-5.00
Tradition	*3.01*	*.84*	*1.50-4.75*	*3.03*	*.61*	*1.67-4.25*	*2.75*	*.80*	*1.50-5.00*
Benevolence	*4.28*	*.80*	*1.50-5.00*	*4.39*	*.60*	*2.50-5.00*	*4.22*	*.59*	*2.50-5.00*
Universalism	*4.14*	*.58*	*2.50-5.00*	*4.09*	*.48*	*2.83-4.83*	*4.21*	*.57*	*2.50-5.00*
Self-direction	*4.05*	*.76*	*1.50-5.00*	*4.17*	*.55*	*3.00-5.00*	*4.20*	*.55*	*2.50-5.00*
Stimulation	*3.21*	*1.01*	*1.00-5.00*	*3.70*	*.87*	*1.33-5.00*	*3.65*	*.85*	*1.67-5.00*
Hedonism	*3.72*	*.85*	*1.67-5.00*	*3.80*	*.83*	*2.33-5.00*	*3.03*	*.59*	*1.00-5.00*
Achievement	*2.99*	*.99*	*1.00-5.00*	*3.56*	*1.02*	*1.00-5.00*	*2.97*	*1.06*	*1.00-5.00*
Power	*2.23*	*.76*	*1.00-3.67*	*2.50*	*.76*	*1.00-4.33*	*2.27*	*.81*	*1.00-4.33*
Security	3.39	.76	2.20-5.00	3.49	.55	2.40-4.60	3.49	.64	2.00-4.80

Table 3.4 Descriptive data for the ought values for each group: Mean (standard deviation) and range

Values	Anxiety Disorder Group			Eating Disorder Group			Reference Group		
	Mean	Sd	Range	Mean	Sd	Range	Mean	Sd	Range
Conformity	*3.64*	.63	2.00-5.00	3.40	.66	2.50-4.75	3.41	.74	1.50-4.75
Tradition	*2.90*	*.82*	*1.75-5.00*	*3.19*	*.35*	*1.75-4.25*	*2.77*	*.78*	*1.25-5.00*
Benevolence	*4.26.*	*.60*	*3.00-5.00*	*4.33*	*.56*	*3.00-5.00*	*4.22*	*.56*	*2.50-5.00*
Universalism	*4.29*	*.59*	*2.60-5.00*	*4.16*	*.54*	*2.83-5.00*	*4.28*	*.56*	*2.50-5.00*
Self-direction	*3.95*	*.77*	*1.50-5.00*	*3.98*	*.59*	*2.50-5.00*	*3.91*	*.48*	*3.00-5.00*
Stimulation	*3.21*	*.99*	*1.00-5.00*	*3.56*	*.73*	*1.00-5.00*	*3.39*	*.78*	*1.67-5.00*
Hedonism	*3.48*	*.94*	*1.00-5.00*	*3.72*	*.64*	*2.67-5.00*	*3.02*	*.56*	*1.00-4.33*
Achievement	*3.93*	*.94*	*1.00-5.00*	*4.41*	*.89*	*2.00-5.00*	*3.66*	*.98*	*1.00-5.00*
Power	*2.17*	*.90*	*1.00-5.00*	*2.49*	*.63*	*1.00-3.67*	*2.13*	*.71*	*1.00-4.00*
Security	3.45	.69	2.00-5.00	3.62	.56	2.60-4.60	3.56	.57	2.00-5.00

3.3.2.1.3 Value priorities for the anxiety disorder, eating disorder and reference group.

This section will describe the value priorities for the three groups in relation to the actual, ideal and ought value domains. The Values are ranked in accordance with the means of each Value for each group from 1- 10, 1 being the most important (i.e. largest mean) and 10 being the least important (i.e. smallest mean). The top three highlighted values are considered as the group's 'central' values and the remaining values are considered as 'peripheral' values (see method section). Only the central values will be

discussed in relation to the group's values as these are the values that been found to be mostly closely related to the core self and most strongly motivate behaviour (see introduction section). The value priorities will firstly be presented between groups and then within groups. A comparison of the value priorities will then be made to the cross-cultural data obtained for Schwartz's model of values to illustrate the quality of the data.

3.3.2.1.3.1 Between group value priorities for the actual, ideal and ought domain

Table 3.5 below presents the anxiety disorder, eating disorder and reference group's value priorities for the actual value domain.

Table 3.5: Value priorities for each group in the actual value domain

Rank	Anxiety Disorder	Eating Disorder	Reference group
1	Benevolence (3.88)	Benevolence (3.88)	*Self-direction 3.93)*
2	*Universalism (3.74)*	*Self-direction*(3.60)	*Universalism(3.66)*
3	*Conformity* (3.71)	*Universalism (3.46)*	*Benevolence (3.55)*
4	Security (3.36)	Conformity (3.44)	Conformity(3.27)
5	Self-direction (3.29)	Achievement (3.21)	Security (3.26)
6	Tradition (2.96)	Security (2.84)	Hedonism (3.05)
7	Hedonism (2.18)	Tradition (2.78)	Achievement (2.96)
8	Achievement (2.18)	Hedonism (2.42)	Stimulation (2.80)
9	Power (1.89)	Stimulation (2.34)	Tradition (2.56)
10	Stimulation (1.84)	Power (2.06)	Power (2.40)

Table 3.5 presents the central values that the 3 groups either share or hold alone. The anxiety disorder group holds conformity on its own and shares benevolence and universalism with the eating disorder and reference group. The eating disorder group shares self-direction with the reference group and benevolence and universalism with both the anxiety disorder and reference group. The reference group similarly shares benevolence and universalism with the anxiety disorder and eating disorder group and shares self-direction with the eating disorder group. Thus, benevolence and universalism are held commonly to all groups, and conformity is held only by the anxiety disorder group, with the eating disorder and reference sharing self-direction.

Table 3.6 below presents the anxiety disorder, eating disorder and reference group's value priorities for the ideal value domain.

Table 3.6: Value priorities for each group in the ideal value domain

Rank	Anxiety Disorder	Eating Disorder	Reference group
1	Benevolence (4.28)	Benevolence (4.39)	*Benevolence (4.22)*
2	*Universalism (4.14)*	*Self-direction*(4.17)	*Universalism(4.21)*
3	Self-direction (4.05)	*Universalism (4.09)*	*Self-direction (4.20)*
4	Hedonism (3.72)	Hedonism (3.80)	Stimulation (3.65)
5	Conformity (3.53)	Stimulation (3.70)	Security (3.49)
6	Security (3.39)	Achievement (3.56)	Conformity(3.23)
7	Stimulation (3.21)	Security (3.49)	Hedonism (3.03)
8	Tradition (3.01)	Conformity (3.39)	Achievement (2.97)
9	Achievement (2.99)	Tradition (3.03)	Tradition (2.75)
10	Power (2.23)	Power (2.50)	Power (2.27)

The anxiety disorder, eating disorder and reference group all share the same three central values, although they are in slightly different order**.** They all share benevolence as top values and followed by universalism and then self-direction for the anxiety disorder group and the reference group, but for the eating disorder group it is self-direction followed by universalism.

Table 3.7 below presents the anxiety disorder, eating disorder and reference group's value priorities for the ought value domain.

Table 3.7: Value priorities for each group in the ought value domain

Rank	Anxiety Disorder	Eating Disorder	Reference group
1	Universalism (4.29)	Achievement (4.41)	*Universalism (4.28)*
2	Benevolence (4.26)	Benevolence (4.33)	*Benevolence (4.22)*
3	Self-direction (3.95)	Universalism (4.16)	*Self-direction (3.91)*
4	Achievement (3.93)	Self-direction (3.98)	Achievement (3.66)
5	Conformity (3.64)	Hedonism (3.72)	Security (3.56)
6	Hedonism (3.48)	Security (3.62)	Conformity (3.41)
7	Security (3.45)	Stimulation (3.56)	Stimulation (3.39)
8	Stimulation (3.21)	Conformity (3.40)	Hedonism (3.02)
9	Tradition (2.90)	Tradition (3.19)	Tradition (2.77)
10	Power (2.17)	Power (2.49)	Power (2.13)

Table 3.7 illustrates similarly to the Ideal values, the anxiety disorder group and reference group hold the same central values but the eating disorder group holds achievement alone, but shares benevolence and universalism with the anxiety disorder and reference group.

3.3.2.1.3.2 Within group value priorities for the actual, ideal and ought value domains

Table 3.8 below presents the anxiety disorder group's value priorities for the actual, ideal and ought value domains.

Table 3.8: Value priorities for the anxiety disorder group in the actual, ideal and ought value domain

Rank	Actual	Ideal	Ought
1	Benevolence (3.88)	Benevolence (4.28)	Universalism (4.29)
2	*Universalism (3.74)*	*Universalism (4.14)*	Benevolence (4.26)
3	*Conformity* (3.71)	Self-direction (4.05)	Self-direction (3.95)
4	Security (3.36)	Hedonism (3.72)	Achievement (3.93)
5	Self-direction (3.29)	Conformity (3.53)	Conformity (3.64)
6	Tradition (2.96)	Security (3.39)	Hedonism (3.48)
7	Hedonism (2.18)	Stimulation (3.21)	Security (3.45)
8	Achievement (2.18)	Tradition (3.01)	Stimulation (3.21)
9	Power (1.89)	Achievement (2.99)	Tradition (2.90)
10	Stimulation (1.84)	Power (2.23)	Power (2.17)

The table above illustrates that, for the anxiety disorder group, benevolence is the most important value and then universalism secondly, for the actual and ideal value domains. Conversely for the ought value domain universalism is the most important value and secondly benevolence. The third most important value for the ideal and ought value domain was self-direction, but for the actual value domain it was conformity.

Table 3.9 below presents the eating disorder group's value priorities for the actual, ideal and ought value domains.

Table 3.9: Value priorities for the eating disorder group in the actual, ideal and ought value domain

Rank	Actual	Ideal	Ought
1	Benevolence (3.88)	Benevolence (4.39)	Achievement (4.41)
2	*Self-direction*(3.60)	*Self-direction*(4.17)	Benevolence (4.33)
3	*Universalism (3.46)*	*Universalism (4.09)*	Universalism (4.16)
4	Conformity (3.44)	Hedonism (3.80)	Self-direction (3.98)
5	Achievement (3.21)	Stimulation (3.70)	Hedonism (3.72)
6	Security (2.84)	Achievement (3.56)	Security (3.62)
7	Tradition (2.78)	Security (3.49)	Stimulation (3.56)
8	Hedonism (2.42)	Conformity (3.39)	Conformity (3.40)
9	Stimulation (2.34)	Tradition (3.03)	Tradition (3.19)
10	Power (2.06)	Power (2.50)	Power (2.49)

The table above illustrates that for eating disorder group, benevolence is held as the most important values in the actual and ideal value domains but not in the ought value domain where achievement is held as the most important value. The second most important value is self-direction again in the actual and ideal value domain but not for the ought value domain where benevolence is the second most important values. Universalism is the third most important value across all value domains

Table 3.10 below presents the reference group's value priorities for the actual, ideal and ought value domains.

Table 3.10 Value priorities for the reference group in their actual, ideal and ought value domain

Rank	Actual	Ideal	Ought
1	*Self-direction 3.93)*	*Benevolence (4.22)*	*Universalism (4.28)*
2	*Universalism(3.66)*	*Universalism(4.21)*	*Benevolence (4.22)*
3	*Benevolence (3.55)*	*Self-direction (4.20)*	*Self-direction (3.91)*
4	Conformity(3.27)	Stimulation (3.65)	Achievement (3.66)
5	Security (3.26)	Security (3.49)	Security (3.56)
6	Hedonism (3.05)	Conformity(3.23)	Conformity (3.41)
7	Achievement (2.96)	Hedonism (3.03)	Stimulation (3.39)
8	Stimulation (2.80)	Achievement (2.97)	Hedonism (3.02)
9	Tradition (2.56)	Tradition (2.75)	Tradition (2.77)
10	Power (2.40)	Power (2.27)	Power (2.13)

The table above illustrates that, for the reference group, the central values for the self-domains are the same but ranked in a different order. In the actual value domain, self-direction is ranked as the most important value and then universalism, and benevolence. In the ideal value domain, benevolence is rated as the most important value and then universalism (similar to actual) and self-direction (similar to ought). In the ought value domain universalism is ranked as the most important value and then benevolence and lastly self-direction (similar to ideal).

3.3.2.1.4 Comparison of cross-cultural value priorities obtained for Schwartz's (1992) model of values.

Table 3.11 and 3.12 below illustrates which values are correlated with each other for the actual value domain, the correlations for the ideal and ought value domain are in Appendix 27. This data is being presented as it illustrates how closely the value priorities for the current study fit with the cross-cultural value priorities obtained from extensive research testing Schwartz's (1992) model of values. Thus, Schwartz (2012b) stated that the value priorities obtained from extensive cross cultural data should be used to check the quality of the data as it should reflect cross-cultural findings in value priorities and that this can be then used as a baseline to look at differences in the sample in levels of importance for each value.

The correlation matrix in table 3.11 and 3.12 displays the correlations between the 10 values. A Spearman's correlation coefficient was carried out as the data is not normally distributed (Field, 2009). The correlations indicted that the current study largely reflects Schwartz circular model of values. Thus, the values that are significantly positively correlated are close together on the circular structure as they share similar motivational goals (see introduction chapter) and those values that are opposites or far away from each other on the circular structure of values are negatively correlated. For example, conformity is positively correlated with tradition, benevolence, universalism, achievement and security and is negatively correlated with self-direction, stimulation, hedonism and power.

Table 3.11: Spearman's Correlation Coefficient and significance level (italics) for the conformity, tradition, benevolence, universalism and self-direction values

	Conformity	Tradition	Benevolence	Universalism	Self-direction
Conformity		.470 *.001*	.359 *.001*	**.**224 *.007*	-119 *.096*
Tradition	.470 *.001*	**.**	**.**241 *.004*	**.**157 *.042*	.003 *.489*
Benevolence	.359 *.001*	.241 *,004*		.392 *.001*	.187 *.020*
Universalism	.224 *.007*	.157 ***.004***	.392 *.001*		.274 *.001*
Self-direction	-.119 .096	,003 *,489*	.187 *.020*	.274 *.001*	
Stimulation	-.189 *.018*	-.068 *.227*	**.**093 *.154*	.180 *.024*	**.**423 *.001*
Hedonism	-.188 *.019*	-.183 *.022*	-.063 *.228*	.186 *.020*	.337 .001
Achievement	.001 *.497*	-.025 *.393*	-.012 *.450*	**.**068 *.020*	.350 *.001*
Power	-.085 *.177*	-,139 *.063*	-.167 *.033*	-.086 *.173*	.293 *.001*
Security	.402 *.001*	**.**315 *.001*	.280 *.001*	.394 .001	.180 *.023*

Table 3.12: Spearman's Correlation Coefficient and significance level (italics) for the stimulation, hedonism, achievement, power and security values

	Stimulation	Hedonism	Achievement	Power	Security
Conformity	-.189 *.018*	-.188 *.019*	.001 *.497*	-.085 *.177*	.402 *.001*
Tradition	-.068 *.227*	-.183 *.022*	.-.025 .393	-.139 *.063*	.315 *.001*
Benevolence	.093 *.154*	-.066 *.228*	-.012 *.450*	-.167 *.033*	.280 *.001*
Universalism	.180 *.024*	.186 *.020*	.068 *.229*	-.086 *.173*	.394 *.001*
Self-direction	.423 *.001*	.337 *.001*	.350 *.001*	.293 *.001*	.180 *.023*
Stimulation		.473 *.001*	.301 *.001*	.252 *.003*	.085 *.175*
Hedonism	.473 *.001*		.354 .001	.276 *.001*	.092 *.157*
Achievement	.301 *.001*	.354 *.001*		.588 *.001*	.118 *.099*
Power	.252 *.003*	.276 *.001*	.588 *.001*		-.002 *.491*
Security	.085 *.175*	.092 *.157*	.118 *.099*	-.002 *.491*	

3.3.2.1.5 PVQ AI and AO value discrepancy descriptive data

Table 3.13 and 3.14 presents the mean, standard deviation and range of the AI and AO value discrepancy scores for the 10 values for each group. Some of the means are negative values and this is because participant's score on their ideal value would be lower than their actual value score and therefore when the AI score was calculated by subtracting the actual score from the ideal score this could lead to a negative value. The negative values are presented here for information, but with the statistical analysis the means were changed to absolute values as the current study examined the differences between the actual and ideal value score, and the actual and ought value score did not make predictions about the direction of any difference.

Table 3.13: Descriptive data for the AI value discrepancy: Mean (standard deviation) and range

Values	Anxiety Disorder Group			Eating Disorder Group			Reference Group		
	Mean	**sd**	**Range**	**Mean**	**sd**	**Range**	**Mean**	**sd**	**Range**
Conformity	*.18*	.59	-.50-2.00	*.05*	*.83*	-.2.25-1.75	.05	.62	*-2.25-1.75*
Tradition	*-.071*	*.62*	*-1.75-1.00*		*.76*	*-2.00-1.25*	*-.18*	*.45*	*-1.50-.75*
Benevolence	*-.36*	*.61*	*-1.75-1.00*	*-.51*	*.80*	*-2.00-1.00*	*-66*	*.75*	*-.2.75*
Universalism	*-.40*	*.45*	*-1.33-.83*	*-.63*	*.52*	*-1.83-.17*	*.55*	*.50*	*-1.67-1.00*
Self-direction	*-.76*	*.90*	*-3.25-.75*	*-.57*	*1.07*	*-3.00-.75*	*-.27*	*.55*	*-1.75-1.00*
Stimulation	*-1.34*	*1.05*	*-3.67-.67*	*-1.35*	*1.27*	*-4.00-1.6*	*.85*	*.79*	*-.3.00-.33*
Hedonism	*-1.51*	*1.26*	*-3.67-1.00*	*-.35*	*1.53*	*-3.75-3.50*	*.027*	*.55*	*-1.33-1.00*
Achievement	*-.76*	*1.09*	*-3.00-1.25*	*-.35*	*1.53*	*-3.75-3.50*	*-.21*	*.79*	*-2.50-2.25*
Power	*-.31*	*.93*	*-2.67-2.67*	*-.44*	*.88*	*-2.00-2.33*	*.13*	*.64*	*-1.67-2.00*
Security	-.037	.54	-.80-1.40	-65	.71	-2.40-1.00	-.22	.47	-1.60-.8

Table 3.14: Descriptive data for the AO value discrepancy: Mean (standard deviation) and range

Values	Anxiety Disorder Group			Eating Disorder Group			Reference Group		
	Mean	Sd	Range	Mean	Sd	Range	Mean	Sd	Range
Conformity	*.077*	.50	*-.75-1.25*	*.40*	*.81*	-2.00-1.75	-32	.71	*-2.25-1.75*
Tradition	*.43*	*.63*	*-1.25-1.25*	*-.41*	*.79*	*-1.75-1.25*	*-.21*	*.21*	*-1.25-1.25*
Benevolence	*-.34*	*.65*	*-1.50-.50*	*-45*	*.88*	*-1.75-1.25*	*-.66*	*.75*	*-2.25-1.00*
Universalism	*-.54*	*.56*	*-2.00-.50*	*-.70*	*.60*	*-2.00-.33*	*-.62*	*.52*	*-1.83-.50*
Self-direction	*-.65*	*1.03*	*-3.00-1.50*	*-.38*	*1.1*	*-3.00-1.25*	*.01*	*.60*	*-1.50-1.75*
Stimulation	*-1.33*	*1.18*	*-4.00-1.67*	*-1.22*	*.96*	*-2.67-1.00*	*-.59*	*.77*	*-2.33-1.00*
Hedonism	*-1.26*	*1.14*	*-3.67-1.00*	*-1.30*	*1.18*	*-4.00-1.50*	*.033*	*.58*	*-1.33-1.67*
Achievement	*-1.7*	*1.23*	*-4.00-.50*	*-1.21*	*1.54*	*-4.00-1.50*	*-.70*	*1.02*	*-3.00-1.50*
Power	*-.25*	*1.06*	*-4.00-2.67*	*-.42*	*1.03*	*-2.00-1.00*	*.27*	*.69*	*-1.33-2.00*
Security	-.09	.59	-80-1.20	-.42	1.03	-2.00-2.33	-.29	.51	-1.60-.80

3.3.2.1.6 Reliability of adapted PVQ

A Cronbach Alpha test was carried out on the adapted PVQ to test its reliability. Values above 0.7/0.8 are considered to indicate good reliability of a questionnaire (Field, 2009). The adapted PVQ questionnaire fell below this suggested level, (i.e. the overall scale was α =.67). When considering the tests reliability in terms of each value subscale, the questionnaire also fell below (subscales ranging from α =0.61-0.66).

3.3.3.2. Hospital and Anxiety Questionnaire

Table 3.15 below presents the mean, standard deviation and range for the anxiety and depression scores for the anxiety disorder, eating disorder group and the two groups combined. The reference group did not complete these measures as this the HADS data is being used to investigate the role of self-discrepancies and psychological distress in the mental health groups.

Table 3.15 Descriptive data including the mean (standard deviation) and range for the HADS

	Anxiety		**Depression**	
Group	**Mean (sd)**	**Range**	**Mean (sd)**	**Range**
Anxiety Disorder	15.1 (3.2)	5-21	11.7 (4.5)	3-19
Eating Disorder	13.4 (4.6)	3-21	8.8 (4.8)	1-18
Combined Mental Health Group	14.25 (4.1)	3-21	10.34 (4.8)	1-19

The cut off score for the HADS on both anxiety and depression is 8 (Bjelland *et al*. (2002), and therefore anyone scoring below 8 does not meet the criteria for clinical anxiety or depression in accordance the HADS guidelines. Levels of severity are then classified as 0-7 for normal, 8-10 for mild, 11-14 for moderate and 15-21 for severe.

Combining both mental health groups, 5 out of 61 people scored within the normal range and therefore did meet cut-off for anxiety, 5 people scored within the mild range, 18 people within the moderate range and the majority of participants (n=33) scoring in the severe range. In relation to depression the majority of participants (n=20) conversely fell below the cut-off score for depression and then 13 people fell within the mild range, 14 in the moderate range and 14 in the severe range.

When looking at the HADS score within the individual groups it was found that within the anxiety disorders group participants scored higher in anxiety (M=15.1) than depression (M=11.7) as would be expected. Thus, in the anxiety subscale the majority of participants scored within the severe range (n=18), 11 in the moderate range, no participants scored in the mild range and one participants did not reach cut-off for anxiety. For the depression subscale, 5 people did not reach the cut off score f, 6 people scored within the mild range, 9 people scored within the moderate range and 9 within the severe range.

Similarly to the anxiety disorders group, the eating disorder group scored higher in anxiety (m=13.4) than depression (-m=8.8) over all. In the anxiety subscale the majority of participants scored within the severe range (n=14), and 8 participants scored within the moderate range, 6 in the mild range and 3 people in the normal range which means these participants did not reach cut off for anxiety. In the depression subscale, similar to the anxiety group the majority of the participants (n=15) did not reach cut-off score for depression, and then 6 people scored within the mild range, 5 in the moderate range and 5 in the severe range.

In summary, participants in all groups scored higher in anxiety than in depression and with the anxiety subscale the majority of the people fell within the severe range. In the depression subscale, interestingly the majority of the participants fell within the normal range which indicates that they did not meet the cut-off score for depression. However, the mean score for depression in each group indicates that participants met the cut off score for depression, but only within the mild (eating disorder group and combined mental health groups) and moderate (anxiety disorder group) range. However Pearson's correlation co-efficient indicated that anxiety and depression correlated significantly, $r=.535$, $p<.001$ for the combined mental health group, eating disorders group, $r=.457$, $p=.005$ and for the anxiety disorders group, $r=.544$, $p<.001$.

3.4 INFERENTIAL STATISTICAL ANALYSIS

3.4.1 Overview

The data was analysed using the Statistical Package for the Social Sciences (SPSS, version 20). The results from the statistical analysis will be discussed in relation to the two main hypotheses. In addition, age will be considered as a covariate.

3.4.2 Hypothesis One

a) The mental health groups will hold different values compared to the reference group.

A MANOVA was used because this hypothesis was testing whether there were any differences between independent groups (i.e. the anxiety disorder, eating disorder and reference group) on more than one continuous dependent variable (i.e. Schwartz's 10 values) simultaneously. Thus, an ANOVA was not used as it only measures one dependent variable and the current study needed to test 10 dependent variables. In addition, the MANOVA has the advantage of being able to detect whether groups differ along a combination of variables, whereas the ANOVA can detect only if groups differ along a single variable and in this way it has greater power to detect an effect (Field, 2009). Pillai's trace was used for the MANOVA as the groups differ on more than one variate (Field, 2009). The independent variable was the three groups (e.g. the anxiety disorder group, eating disorder group and reference group) and the dependent variable was the 10 values (e.g. conformity, tradition, benevolence, universalism, self-direction, stimulation, hedonism, achievement, power and security). As there was multiple comparisons taking place, a more conservative significance level will be used $p<.01$.

In Pillai's trace, there was a significant differences between the groups in values, $V= .630$, $F(18,220)=5.66$, $p<.001$. Univariate results (see table 3.16) revealed that there were significant differences (at the 0.01 level) between groups in five values: self-direction $F(2,119) =6.20$, $p=.002$; stimulation, $F(2,119) =11.09$, $p<.001$; hedonism,

F(2,119)=13.57, p<.001, achievement, F(2,119) =7.06, p<.001; and security, F(2,119) =5.34, p=.006. However, there were not any significant difference between groups in the five values: conformity, F(2,119) =2.58, p=.080; tradition, F(2,119) =2.60, p=.079; benevolence, F(2,119) =2.94, p=.057; universalism, F(2,119) =1.59, p=.209; and power, F(2,119) =4.54, p=.013.

When considering age as a covariate Pillai's trace, revealed that there was still a significant difference between the groups in values, V= .491, F(20,220)=3.58, p=.001. Univariate results revealed (see table 3.16) that there were significant differences between groups in the five values: self-direction F(2,119) =6.32, p=002; stimulation, F(2,119) =11.47, p=.002; hedonism, F(2,119) =15.94, p=.002; achievement, F(2,119) =5.27, p=006; and power F(2,119) = 5.39, p=.006. However, there was not a significant difference between groups in five values: conformity, F(2,119) =2.58, p=.080; tradition, F(2,119) =2.60, p=.079; benevolence, F(2,119) =2.94, p=.057; universalism, F(2,119) =1.59, p=.209; and security, F(2,119) =1.93, p=.150. Therefore, when considering age as a covariate, the same values are significant and not significant apart from security which is significant without considering age as a covariate, but not significant when considering age as a covariate. Furthermore, power is considered significant when considering age as a covariate but not significant when age is not considered as a covariate.

Table 3.16: MANOVA results for values: Degrees of freedom (df), F value, significance level and Partial Eta Squared for each value with age as a covariate (+age) and without age (-age)

Values	df	F		Significance level		Partial Eta Squared	
		+ Age	-Age	+ Age	-Age	+ Age	-Age
Conformity	2,119	2.65	2.58	.075	.080	.043	.042
Tradition	2,119	2.65	2.60	.075	.079	.043	.042
Benevolence	2,119	3.00	2.94	.054	.057	.048	.047
Universalism	2,119	.941	1.59	.39	.209	.016	.026
Self-direction	2,119	6.32	6.50	**.002**	**.002**	.097	.099
Stimulation	2,119	11.47	11.09	**.002**	**.001**	**.163**	**.157**
Hedonism	2,119	15.94	13.57	**.002**	**.001**	**.213**	**.186**
Achievement	2,119	5.27	7.06	**.006**	**.001**	.082	.106
Power	2,119	5.39	4.54	**.006**	.013	.084	.071
Security	2,119	1.93	5.34	.150	**.006**	.032	.082

Bonferroni post-hoc comparisons were used to indicate the direction of the significant group differences. Field (2009) suggests the use of Gabriel's post-hoc test if there are unequal samples sizes. However, when the results were compared to Bonferroni Post Hoc comparisons they yielded the same results; therefore Bonferroni was used in this study as it has been found to control for type one error more effectively than the other post-hoc tests (Field, 2009).

Bonferroni post-hoc comparisons (see table 3.17) revealed that, for self-direction, the anxiety disorder group differed significantly, F(2, 119) = 6.50, p=.002 to the reference group, with the reference group (m=3.93) being higher in self-direction than the anxiety group (m=3.29). The anxiety disorder and eating disorder group did not differ, F(2, 119) = 6.50, p=.433 from one another on self-direction, and the eating disorder and reference group, F(2, 119) = 6.50, p=1.00 did not differ from one another. Similarly in stimulation the anxiety disorder group differed significantly, F(2,119) = 11.09. p<.001 to the reference group, with the reference group (m=2.80) being higher in self-direction than the anxiety group (m=1.84). The anxiety disorder and eating disorder group did not differ from one another on self-direction, F(2, 119) = 11.09, p=1.00 and the eating disorder and reference group did not differ from one another, F(2, 119) = 11.09, p=.078 .

The anxiety and eating disorder group differed to the reference group on the hedonism value, F(2, 119) = 13.57, p<.001; F(2, 119) = 13.57, p=.002 respectively, and the anxiety disorders group and the eating disorders group did not differ, F(2, 119) = 13.57, p=.757, again the reference being higher in hedonism (m=3.05), then the eating disorders group (m=2.42) and anxiety disorders group (m=2.18). In the achievement value, the anxiety disorders and eating disorders group differed to each other, F(2, 119) = 7.06, p=.002 and the reference group differed to the anxiety group, F(2, 119) = 7.06, p=.008, but not the eating disorders group, F(2, 119) = 7.06, p=.933. The eating disorders group was highest in achievement (m=3.21) then the reference group (m=2.96) and the anxiety disorders group (m=2.18). Power and security were not found to be significantly different in post-hoc comparisons at P<.01.

Table 3.17: Bonferroni post- hoc comparison: Means (standard deviations) and F value of group values

Value	Anxiety Disorder	Eating Disorder	Reference	F (2,199)
Self-direction	3.29a (.98)	3.60ab(.99)	3.93b (.58)	6.50
Stimulation	1.84a(.82)	2.34ab (1.18)	2.80b (.82)	11.09
Hedonism	2.18a (.98)	2.42a (1.11)	3.05b (.50)	13.57
Achievement	2.18a (.96)	3.21b (1.38)	2.96b (1.07)	7.06

Note: Means with different letters differ significantly at P<.01

In summary, there were significant differences between the groups in self-direction, stimulation, hedonism, achievement, power (only when age is a covariate) and security (only when age is not a covariate) and therefore we can reject the null hypothesis on these values, but not on conformity, tradition, benevolence and universalism values. Post-hoc analysis revealed that the reference group was significantly different, and had the highest score to the anxiety disorder group alone on self-direction, and stimulation values. In addition, the reference group was significantly different and had the highest score for both the anxiety and eating disorders on the hedonism value alone. The eating disorders group was significantly different and had the highest value to the anxiety disorder group on achievement.

b) The AD group will hold different values from the ED group. More specifically the AD group central values will be characterised by security, conformity and tradition values within the conservation quadrant and the ED group central values will be characterised by achievement values centred on the self-enhancement quadrant.

This hypothesis was tested by Bonferroni Post Comparisons (see table 3.17) as described previously**.** As predicted, the eating disorders group did differ significantly to the anxiety disorders group on the achievement value F (2,119) =7.07, p=.002. The anxiety disorder group did not differ to the eating disorder group on security F(2,119) = 5.34, p=.011, (but only marginally given that a p<.01 significance level is being used for the current study), conformity or tradition as hypothesised, F(2,119) = 2.58, p=.691, F(2,119) = 2.60, p=1.00 respectively. The anxiety and eating disorder group did not differ on any other value.

3.4.3 Hypothesis Two

a) There will be a difference in value discrepancies in values between the mental health groups and the reference group.

b) The mental health groups will have higher levels of value discrepancies than the reference group.

This section will describe the statistical findings of the Actual:Ideal (AI) value discrepancy first and then the Actual:Ought (AO) value discrepancy and then compare them.

3.4.3.1 AI value discrepancies

A MANOVA was used because this hypothesis was testing whether there were any differences between independent groups (i.e. the anxiety disorder, eating disorder and reference group) on more than one continuous dependent variable (i.e. AI value discrepancies on Schwartz's 10 values) simultaneously. Thus, an ANOVA was not used as it only measures one dependent variable and the current study needed to test 10 dependent variables. In addition, the MANOVA has the advantage of being able to detect whether groups differ along a combination of variables, whereas the ANOVA can detect only whether groups differ along a single variable, and to this end it has greater power to detect an effect (Field, 2009). Pillai's trace will be used for the MANOVA as the groups differ on more than one variate (Field, 2009). The independent variable was the three groups (e.g. the anxiety disorder group, eating disorder group and reference group) and the dependent variable was the AI value discrepancies in the 10 values (e.g. conformity, tradition, benevolence, universalism, self-direction, stimulation, hedonism, achievement, power and security). As there will be multiple comparisons taking place, a more conservative significance level will be used $p<.01$. The MANOVA will be carried out on the means as absolute values.

Pillai's trace revealed that there was a significant difference between the groups in AI value discrepancies, $V= .514$, $F(20,200) = 3.80$, $p<.001$. Univariate results (see table

3.18), revealed that there were significant differences between the groups on six values in AI: tradition, F (2.118) =.843, p=.009; self-direction, F(2.118) =2.71, p=.002; stimulation, F(2.118) =3.51, p=.007; hedonism, F(2.118) =20.82, p<.001; achievement, F(2.118) =4.60, p=.004, and security, F(2.118) =1.42, p<.001. However, there were no significant differences found in conformity, F (2.118) =.1.17, p=.316; benevolence, F (2.118) = 1.47, p=.234; universalism, F (2.118) =1.56, p=.214; and power, F(2.118) =3.39, p=.037 .

When considering age as a covariate, Pillai's trace revealed that there was still significant differences between the groups in AI value discrepancies, V= .465, F(20,218) = 4.65, p<.001. Univariate results (see table 3.15) revealed that dissimilar significant differences when considering age as a covariate between the groups on two values in AI value discrepancy: self-direction, F(2,118) =5.75, p=.004 and hedonism, F(2,118) =28.22, p<.001. However, there were no significant differences found in conformity, F (2,118) =.548, p=.579; tradition, F (2,118) =1.76, p=.185; benevolence, F (2.118) =.1.45 p=.238; universalism, F (2,118) =1.32, p=.272; stimulation, F(2,118) =3.81, p=.025; achievement, F(2,118) =3.96, p=.022; power F(2,118) =1.90, p=.154; and security, F(2,118) =4.59, p=.012.

Table 3.18: MANOVA results for AI value discrepancies: Degrees of freedom (df), F value, significance level and Partial Eta Squared for each value with age as a covariate (+age) and without age (-age)

Values	df	F		Sig		Partial Eta Squared	
		+ Age	-Age	+ Age	-Age	+ Age	-Age
Conformity	2,118	.548	1.16	.579	.316	.009	.019
Tradition	2,118	1.76	.4.95	.185	**.009**	.028	.078
Benevolence	2,118	1.45	1.47	.238	.234	.024	.024
Universalism	2,118	1.32	1.56	.272	.214	.022	.026
Self-direction	2,118	5.75	6.54	**.004**	**.002**	.089	.100
Stimulation	2,118	3.81	5.23	.025	**.007**	.061	.081
Hedonism	2,118	28.22	31.32	**.001**	**.001**	**.325**	**.347**
Achievement	2,118	3.96	5.80	.022	**.004**	.063	.090
Power	2,118	1.90	3.40	.154	.037	.031	.054
Security	2,118	4.59	8.77	.012	**.001**	.073	.129

Bonferroni post-hoc comparisons were used to indicate the direction of the significant group differences. Field (2009) suggests the Gabriel's post-hoc test is used if there are unequal samples sizes. When the results were compared to Bonferroni Post Hoc comparisons they yielded the same results; therefore Bonferroni was used in this study

as it has been found to control for type one error more effectively than the other post-hoc tests (Field, 2009).

Bonferroni post-hoc comparisons (see table 3.19) revealed that, in the tradition value, there was only a group difference between eating disorders group and the reference group, F(2,118) =4.95 p=.007, with the eating disorders group having the highest level of AI value discrepancies (m=.24) and then the reference group (M=.18) and the anxiety disorders group (M=.07). There were no group differences between the anxiety and eating disorders group F(2,118) =4.95 p=.395 and the reference group and the anxiety disorders group, F(2,118) =4.95 p=.563. In the self-direction value, there was only a group difference between eating disorders group and the reference group, F(2,118) =6.54 p=.009 with the anxiety disorders group having the highest level of AI self-discrepancies (m=.76). There were no group differences between the anxiety and eating disorders group F(2,118) =6.54 p=1.00 and the reference group and the anxiety disorders group, F(2,118) =6.54 p=.016.

In relation to the hedonism value, there were group differences between the anxiety and eating disorders and the reference group, F(2,118) =31.33 p<.001 for both, with the anxiety disorder group having the highest AI discrepancy (m=1.51), then the eating disorder group (m=1.37) and the reference group (m=.027). However, the anxiety and eating disorder group did not differ significantly F(2,118) =31.33 p=1.00. In relation to the achievement value there were only group differences between the eating disorders group and the reference group, F (2.118) =4.80 p=.006, with the anxiety disorders group having the highest AI value discrepancies (m=.67), then the eating disorders

group (m=.35) and the reference group (m=.21). However, there were no group differences found between the anxiety and eating disorders group, F (2,118) =5.80 p=1.00, and the anxiety disorders group and the reference group, F (2,118) =5.80 p=.082.

In relation to the security value, group differences were found between the eating disorder group and the reference group in the security value, F (2,118) =8.77 p<.001, and between the anxiety and eating disorders group, F (2,118) =8.77 p=.004. The eating disorders group had the highest AI value-discrepancies (m=.65), then the reference group (m=.22) and the anxiety disorders group (m=.037). However, there were no group differences between the anxiety disorders group and the reference group, F (2,118) =8.77 p=1.00.

Table 3.19: Bonferroni post-hoc comparisons for AI value discrepancies: Means (standard deviations), F value and significance level of group differences

Value	Anxiety Disorder	Eating Disorder	Reference	F (2,119)
Tradition	.07ab (.62)	.24a (.83)	.18b(.62)	4.95
Self-direction	.76ab (.90)	57a (1.07)	.27b (.55)	6.54
Hedonism	1.51a (1.26)	1.37a (1.27)	.027b (.55)	31.33
Achievement	.76ab (1.09)	.35a (1.53)	.21b (.79)	5.80
Security	.037a (.54)	.65b (.71)	.22a (.47)	8.77

Note: Means with different letters differ significantly at P<.01

In summary, in all of the values found to have significant differences between the groups, the mental health groups had greater value discrepancies than the reference group and the anxiety group had marginally higher AI value discrepancies on 3 of the values and 2 for the eating disorders group. There were no group differences found between the mental health groups on the values, except for the security value. Therefore in relation to AI value discrepancy, hypothesis 2(a) is supported and we can thereby reject the null hypothesis in relation to tradition, self-direction, hedonism, achievement and security.

3.4.3.2 AO value discrepancies

The AO value discrepancies were statistically analysed in the same way as the AI value discrepancies in section 3.4.3.1 (e.g. MANOVA and Bonferroni Post Comparisons).

Similarly to hypothesis 1(a), Pillai's trace revealed that there was a significant difference between the groups in AO value discrepancies, V= .579, F(20,220), = 4.48, p<.001. Univariate (see table 3.20) revealed that there were significant differences between the groups on six values in AO value discrepancies (see table 3.18): self-direction, F(2,118) =10.60, p<.001; stimulation, F(2,118) =10.60, p<.001; hedonism, F(2,118) =27.57, p<.001; achievement, F(2,118) =6.85, p<.002; power F(2,118) =6.44, p=.002; and security, F(2,118) =11.55, p<.001. However, there were no significant differences found in four values in conformity, F (2,118) =.886, p=.415; tradition, F (2,118) =4.44, p=.014; benevolence, F (2,118) = 1.94, p=.149; and universalism, F (2,118) =.916, p=.403.

When considering age as a covariate, Pillai's trace revealed that there was still significant differences between the groups in AO self-discrepancies, V= .512, F(20,218) = 3.75, p<.001, partial eta squared .256. Univariate results (see table 3.15), revealed the same significant differences when considering age as a covariate between the groups on six values in AO (see table 3.15): self-direction, F(2,118) =10.32, p<.001; stimulation, F(2,118) =9.42, p<.001; hedonism, F(2,118) =24.34, p<.001; achievement, F(2,118) =6.85, p=.002: power F(2,118) =5.61, p=.005; and

security, F(2,118) =6.10, p=.003. However, there were no significant differences found in three values in conformity, F (2,118) =.552, p=.575; benevolence, F (2,118) = 1.85, p=.162; universalism, F (2,118) =.432, p=.650; and tradition, F (2,118) = 1.56, p=.211 in contrast to when age was not considered.

Table 3.20: MANOVA for AO value discrepancies: Degrees of freedom (df), F value, significance level and Partial Eta Squared for each value with age as a covariate (+age) and without age (-age)

Values	df	F		Sig		Partial Eta Squared	
		+ Age	-Age	+ Age	-Age	+ Age	-Age
Conformity	2,118	.552	.886	.575	.415	.009	.015
Tradition	2,118	1.58	4.43	.211	**.**014	.026	.070
Benevolence	2,118	1.85	1.93	.162	.149	.031	.032
Universalism	2,118	.434	.916	.650	.403	.007	.015
Self-direction	2,118	10.32	10.62	**.001**	**.001**	.150	.153
Stimulation	2,118	9.42	10.60	**.001**	**.001**	.139	.152
Hedonism	2,118	24.42	27.57	**.001**	**.001**	**.294**	**.319**
Achievement	2,118	6.85	6.86	**.002**	**.002**	.105	.104
Power	2,118	5.60	6.44	**.005**	**.002**	.087	.098
Security	2,118	6.10	11.55	.**003**	**.001**	.094	.164

The Bonferroni Post Hoc comparison (see table 3.21) revealed that, in the self-direction value, there was a group difference between anxiety and eating disorders group and the reference group, F(2,118) =10.63 p<.001, F(2,118) =10.63 p=.004 respectively, with the anxiety disorders group having the highest level of AO value discrepancies (M=.65) then the eating disorders group (m=.38) and the reference group (m=.01). There were no group differences between the anxiety and eating disorders group F(2,118) =10.63 p=.100.

In the stimulation value there were group differences between the anxiety and eating disorder groups and the reference group, F(2,118) =10.60 p<.001, F(2,118) =10.60 p=.002, respectively, with the anxiety disorder group having the highest AO self-discrepancy, (m=1.33), then the eating disorders group (m=1.22) and reference group (m=.59). However, there were no group differences between the anxiety and eating disorders group, F(2,118) =10.60 p=1.00. In relation to the hedonism value, there were group differences between the anxiety and eating disorders groups and the reference group, F(2,118) =27.58 p<.001 for both, with the eating disorder group having the highest AO discrepancy (m=1.30), then the anxiety disorder group (m=1.26) and the reference group (m=.033). However, the anxiety and eating disorder group did not differ significantly F(2,118) =27.58 p=1.00.

In relation to the achievement value, there were only group differences between the anxiety disorders group and the reference group, F (2.118) =6.85 p=.003, with the anxiety disorders group having the highest AO value discrepancies (m=1.7), then the eating disorders group (m=1.21) and the reference group (m=.70). However, there

were no group differences found between the anxiety and eating disorders group, F (2,118) =6.85 p=1.00, and the eating disorders group and the reference group, F (2,118) =6.85 p=.047.

Group differences were found between eating disorder groups and the reference group in the power value, F (2,118) =6.44 p=.003. The eating disorders group had the highest AO value discrepancies in the power value (m=.42), then the anxiety disorders group (m=.25) and the reference group (m=.27). However, there were no group differences between the anxiety and eating disorders group, F (2,118) =6.44 p=0.14 and between the anxiety disorders group and the reference group, F (2,118) =6.44 p=1.00. In relation to the security value, group differences were found between the eating disorder group and the reference group in the security value, F (2,.118) =11.55 p<.001, and between the anxiety and eating disorders group, F (2.118) =11.55 p=.002. The eating disorders group had the highest AO value discrepancies (m=.79), then the reference group (m=.29) and the anxiety disorders group (m=.09). However, there were no group differences between the anxiety disorders group and the reference group, F (2,118) =11.55, p=1.00.

In summary, in all of the values found to have significant differences between the groups, the mental health groups had greater value discrepancies than the reference group, with the anxiety group and eating disorders group being equally greater than the reference group. There were no group differences found between the mental health groups on the values, except for the security value. Therefore, in relation to AO value discrepancy, hypothesis 2(a) is supported and we can thereby reject the null

hypothesis in relation to self-direction, stimulation, hedonism, achievement, power and security.

Table 3.21: Bonferroni post-hoc comparisons for AO value discrepancy: Means (standard deviations) and F value of group values

Value	Anxiety Disorder	Eating Disorder	Reference	F (2,118)
Self-direction	.65a (1.03)	.38a (1.1)	.01b (.60)	10.63
Stimulation	1.33a (1.18)	1.22a (.96)	.59b (.77)	10.60
Hedonism	1.26a (1.14)	1.30a (1.18)	.033b (.58)	27.58
Achievement	1.7 a(1.23)	1.21ab (1.54)	.70b (1.02)	6.85
Power	.25ab (1.06)	.42a (1.03)	.27b (.69)	6.44
Security	.09a (.59)	.79b (.80)	.29a (.51)	11.55

Note: Means with different letters differ significantly at p<.01 level.

To conclude, both AI and AO value discrepancy results reveal that the mental health groups have greater value discrepancies than the reference group, and that the anxiety group had marginally higher value discrepancies than the eating disorders group. There were no group differences found between the mental health groups on the values, except for the security value. The findings from the AI and AO value discrepancies were very similar with the exception of the tradition value, which also

showed significant group differences between AI value discrepancies and not AO value discrepancies. Therefore, in relation to both AI and AO, value discrepancy hypothesis 2(a) is supported and we can thereby reject the null hypothesis in relation to tradition (AI only), self-direction, stimulation, hedonism, achievement, power and security.

C) There will be greater AI value discrepancies than AO value discrepancies in all groups.

A Paired Sample t-test was used for this hypothesis as opposed to a MANOVA, because it was testing whether only two means are different (e.g. the AI mean and the AO mean), and not several means (e.g. 10 values). A Paired Sample t-test was used as opposed to an Independent Sample t-test as the same participants underwent the same conditions (e.g. completing the PVQ). A significance level was set at $p<.05$ as this test is not making the same multiple comparisons as the MANOVA and it was done on a different variable (e.g. total AI and not separate AI for each value).

A Paired Sample t-test was done on the grand mean of all the values combined on the total sample and on the individual groups (see table 3.22). A significant difference was found between AI and AO on the total sample, $t(120) =2.28$, $p<.001$ with AO value discrepancies being greater($M=5.12$) than AI ($M=4.45$), and with the anxiety disorder group, $t(28) =2.28$, $p=.03$ and reference group, $t(60) =3.87$, $p=.015$. However, as a significant difference was not found with the eating disorder group, $t(20) =1.87$, $p=.072$,

the null hypothesis can be accepted as AI value discrepancies were not found to be higher than AO value discrepancies across all groups.

Table 3.22: Paired Sample t-test results: Mean, standard deviation (SD), Std error mean, degrees of freedom (df), t value, and significance level for t-test (sig)

Groups	Mean (SD)	Std. error Mean	df	t	Sig
Anxiety Disorders	.88 (2.1)	.39	28	2.28	.03
Eating Disorders	.73 (2.2)	.39	30	1.87	.072
Reference	.54 (2.2)	.22	60	2.50	.015
Total	3.86 (1.9)	.17	120	3.87	**.001**

D) AI value discrepancies will be more associated with depression and AO value discrepancies will be more associated with anxiety in the mental health group.

A Spearman's Correlation Coefficient (one tailed) was used to test this hypothesis because this hypothesis was investigating whether there was a relationship between variables (e.g. between AI value discrepancy and depression and AI value discrepancy and anxiety). A one-tailed as opposed to a two-tailed Spearman's correlation was

used as the hypothesis is stating the direction of the outcome. A Spearman's correlation test was used as opposed to the Pearson's Correlation Coefficient as the data is not normally distributed. The significance level will be set at $p<.05$ for testing this hypothesis as the same multiple comparisons were not taking place as the MANOVA and it was done on a different variable (e.g. total AI value discrepancy and not separate AI value discrepancy for each value).

Spearman's correlation (one-tailed) (see table 3.23) indicated that the eating disorder and anxiety disorder groups (i.e. mental health group) combined revealed a significant but small correlation between AI value discrepancy and depression, $r_s=.293$, $p<.011$ and anxiety, $r_s=.230$, $p<.039$. A t-statistic was used to test the difference between these correlations, and it revealed that there was no difference significant between the correlations as $t(58) =0.37$ was below the critical value of 1.68 at .05 level (one-tailed). AO value discrepancy was also found to significantly correlate with both anxiety, $r_s=.291$, $p<.012$ and depression, $r_s=.294$, $p<.011$. A t-statistic was used to test the difference between these correlations, and it revealed that there was no significant difference between the correlations as $t(58) =0.02$ was below the critical value of 1.68 at.05 level (one tailed).

When looking at the groups separately, it was found that within the anxiety disorder group the only significant correlation was found between AO value discrepancy and anxiety, $r_s=.329$, $p<.041$. A t-statistic was used to test the difference between AO and anxiety and AO and depression correlations, and it revealed that there was no significant difference between the correlations as $t(58) =1.56$ was below the critical

value of 1.68 at.05 level (one tailed). There were no significant correlations found between AI value discrepancy and anxiety, r_s=.220, p>.126 and depression, r_s=.160, p>.202 or AO value discrepancy and depression, r_s=.092, p>.318. In relation to the eating disorder group, no significant correlations were found in AI and anxiety, r_s=.126, p>.250 and depression, r_s=-.134, p>.236, and in AO value discrepancy and depression, r_s=-.121, p>.258, and anxiety, r_s=.212, p>.126.

Table 3.23: Spearman's correlation for the anxiety disorder group, eating disorder group and combined mental health group: Number of participants (n), Spearman's correlation (r) and probability level (prob)

	Anxiety Disorder			**Eating Disorder**			**Mental Health Group**		
	n	**r**	**Prob**	**n**	**r**	**Prob**	**n**	**R**	**Prob**
AI Anxiety	29	.220	.126	31	.126	**.**250	60	.230	**.039**
AI Depression	29	.160	.202	31	-.134	.236	60	.293	**.011**
AO Anxiety	29	.329	.**041**	31	.212	.126	60	.291	**.012**
AO Depression	29	.092	.318	31	-.121	.258	60	.294	**.011**

In summary, null hypothesis 2(d) was accepted with the mental health group. AI value discrepancy was found not to be specifically associated with depression and AO value discrepancy was found not to be associated with anxiety. When looking at the groups separately with the anxiety group, the AO value discrepancy correlated with anxiety, but was not statistically different to AO and depression. Furthermore, there were no other significant correlations found in the anxiety and eating disorders group.

3.5 CHAPTER SUMMARY

The descriptive statistics were presented in relation to the participants and measures used (e.g. PVQ and HAD). The descriptive statistics indicated that, in relation to the participants, the anxiety and reference group did not differ in age or gender but the eating disorders group did, which reflect this clinical sample. Consequently, age was added as a covariate in the MANOVAs. The rationale for the statistical tests being used was outlined and then how the assumptions were met. It was found that some of the data was not normally distributed but the data was not transformed for various reasons, the main one being that the descriptive data indicated that it reflected the cross-cultural finding; therefore it is proficient to be used as a baseline for looking at differences in value importance across groups (Schwartz, 2012).

The descriptive data for the PVQ was presented in relation to values (actual, ideal and ought) and AI value discrepancy and AO value discrepancy. The descriptive data largely reflected the cross-cultural priorities, indicating that the data was of good quality and therefore can be used as a baseline to look at differences in levels of

importance in the values. The descriptive data for the values also outlined the group's value priorities and the central values were discussed for each group. The three groups shared benevolence and universalism as central values, with the anxiety disorder group holding conformity alone and the eating disorder and reference group sharing self-direction.

The results from the statistical analysis were reported in relation to the two main hypotheses. Hypothesis one revealed significant differences (around $p<.001$) between the mental health groups and the reference group. More specifically, differences were found between the groups in *self-direction, stimulation, hedonism, achievement, power (with age as a covariate only) and security (without age as a covariate only),* but not in conformity, tradition, benevolence and universalism. Hedonism and Stimulation revealed the largest effect size. Post-hoc analysis revealed that the reference group differed significantly as they rated the importance of self-direction and stimulation values higher than the anxiety group (but not the eating disorder group). In addition, the reference group also rated the hedonism value as more important than both the anxiety and eating disorders group. Conversely, in the achievement value, the eating disorders group rated this value as more important than the reference group and the anxiety disorder group. Power and security were not found to be significantly different within post-hoc comparisons.

Hypothesis two revealed that with AI value discrepancies there were significant differences (around $p<.001$) between groups in: *tradition, self-direction, stimulation, hedonism, achievement and security*, with the largest effect size being with hedonism.

With age considered as a covariate, only self-direction and stimulation were significantly different (around p<.001). In AO, value discrepancies revealed similar significant differences to AI; for example, in *self-direction, stimulation, hedonism, achievement, and security*, with age as a covariate or without. However, in contrast to AI value discrepancies, the *power* value was also found to be significantly different in AO value discrepancies and the tradition value was found to be significant in AI value discrepancy but not AO values discrepancies.

Post–hoc analysis revealed that the mental health groups had greater AI value discrepancies than the reference group on *tradition, self-direction, hedonism, achievement, and security*, and the mental health groups did not differ, except for on the security value where the eating disorder group had large value discrepancies. Again, AO value discrepancies revealed similar significant differences to AI values discrepancies, with the mental health groups having greater value discrepancies in *self-direction, stimulation, hedonism, achievement, power and security*. Unexpectedly, AO value discrepancies were found to be greater than AI values discrepancies when looking at the anxiety and eating disorder groups combined but not separately.

Furthermore, AI value discrepancies were found to be related to anxiety and depression in the combined mental health group, and AO with the combined mental health group and the anxiety group. However, depression was found not to be specifically related to Actual-Ideal discrepancies and anxiety was found not to be specifically related to Actual-Ought discrepancies as expected.

Overall, the majority of the findings supported the hypothesis made. The interpretation of the findings will be discussed in the next discussion chapter.

CHAPTER 4 – DISCUSSION

4.1 OVERVIEW

This chapter will reflect on how the results obtained during this study contribute to theory and knowledge about values and mental health problems and how self-discrepancies between values can contribute to psychological distress. The results will be discussed with reference to current literature. Before discussing the clinical implications of the research, the strengths and limitations of the study will be considered. In addition, recommendations for future research will be outlined.

4.2 SUMMARY AND INTERPRETATION OF THE FINDINGS

The aim of the current study was to:

- Investigate whether people with particular mental health problems (namely anxiety and eating disorders) hold different values to those without mental health problems.

- To find out whether people with mental health problems have more value discrepancies than those without mental health problems, and if Actual: Ideal (AI) value discrepancies were greater than Actual: Ought (AO) in all the groups.

- To test whether value discrepancies in values are related to psychological distress, and what type (e.g. anxiety and depression).

To investigate this, the mental health groups were compared with the reference group in values and value discrepancies, using Multivariate statistics (MANOVA), Bonferroni post-hoc comparisons and Paired Sample t-tests. Pearson's Correlation Coefficient was also used to investigate whether there is an association between value discrepancies and psychological distress (e.g. depression and anxiety).

4.2.1 Hypothesis one: Differences between the mental health groups and reference group in values

Multivariate statistics (MANOVA) revealed significant differences (around $p<.001$) between the mental health groups and the reference group. More specifically, differences were found between the groups in *self-direction, stimulation, hedonism, achievement, power (with age as a covariate only) and security (without age as a covariate only),* but not in conformity, tradition, benevolence and universalism. Hedonism and Stimulation revealed the largest effect size. Post-hoc analysis revealed that the reference group differed significantly as they rated the importance of self-direction and stimulation values higher than the anxiety group (but not the eating disorder group). In addition, the reference group also rated the hedonism value as more important than both the anxiety and eating disorders group. Conversely, in the achievement value, the eating disorders group rated this value as more important than the reference group and the anxiety disorder group. Power and security were not found to be significantly different within post-hoc comparisons.

4.2.2 Hypothesis two: Discrepancies in values and how this relates to psychological distress

In relation to value discrepancies (i.e. Actual:Ideal, AI and Actual:Ought, AO), it was found that with AI value discrepancies there were significant differences (around p<.001) between groups in: *tradition, self-direction, stimulation, hedonism, achievement and security*, with the largest effect size being with hedonism. With age considered as a covariate, only self-direction and stimulation were significantly different (around p<.001). In AO, value discrepancies revealed similar significant differences to AI value discrepancies; for example, in *self-direction, stimulation, hedonism, achievement, and security*, with age as a covariate or without. However, in contrast to AI value discrepancies, the *power* value was also found to be significantly different in AO value discrepancies and the tradition value was found to be significant in AI but not AO value discrepancies.

Post–hoc analysis revealed that the mental health groups had greater AI value discrepancies than the reference group on *tradition, self-direction, hedonism, achievement, and security*, and the mental health groups did not differ, except for on the security value where the eating disorder group had large value discrepancies. Again, AO revealed similar significant differences to AI, with the mental health groups having greater value discrepancies in *self-direction, stimulation, hedonism, achievement, power and security*. Unexpectedly, AO was found to be greater than AI when looking at the anxiety and eating disorder groups combined but not separately. Furthermore, AI value discrepancies were found to be related to anxiety and depression in the combined mental health group, and AO with the combined mental

health group and the anxiety group. However, depression was found not to be correlated with Actual-Ideal discrepancies and anxiety was not found to be correlated with Actual-Ought discrepancies as expected.

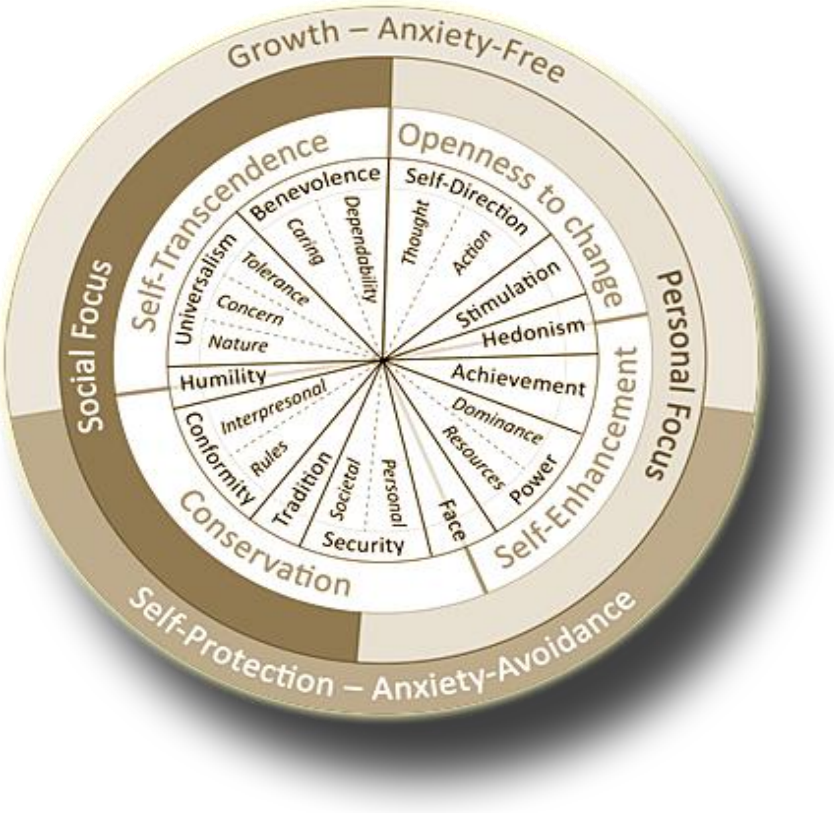
4.2.3 Summary of the findings

The main differences between groups in values were found with the reference group, who rated particular values (e.g. *self-direction, stimulation, hedonism, power and security*) as more important than the mental health groups, apart from achievement values where the eating disorders group rated this value as more important than the reference group and the anxiety disorders group. Interestingly, significant differences were also found in the same value in values discrepancies, with the addition of tradition (AI only), with the mental health groups having had higher value discrepancies in these values than the reference group. The highest AI and AO value discrepancies were in *hedonism, then stimulation, achievement, self-direction, power and lastly tradition.* AO value discrepancies were found to be greater than AI value discrepancies when looking at the groups combined but not separately._Unexpectedly, with the combined mental health group, AI value discrepancies were found not to be specifically associated with depression, and AO value discrepancies similarly were not specifically associated with anxiety. However, correlations were found between AI value discrepancies and anxiety and depression in the combined mental health group, and AO discrepancies value with the combined mental health group and the anxiety group.

4.2.4 Interpretations of the findings

So how can we interpret these interesting findings? Firstly, let's consider the positioning of these values in Schwartz's model (1992, 2012) (see Figure 4.1); the values found to be significantly different between groups are positioned within the same quadrants located next to each other (i.e. openness to change and self-enhancement). This is except for security, but this is positioned close to these quadrants. These values are therefore said to have a personal focus, are 'anxiety free' and focused on personal growth. Given this, one could argue that the findings suggest that people with anxiety and eating disorders are actually less personally focused and interested in personal growth via openness to change and self-enhancement. They are therefore less 'anxiety free', but ideally they would like to be more or less like this' consequently this incongruence causes them psychological distress. So based on the discrepancies in values, it was found that people with anxiety and eating disorders would like to be mostly more or less hedonistic, then more or less focused on stimulation, achievement, security, self-direction, power and tradition (eating disorder group only).

Figure 4.1: The Schwartz (2012a) refined model of values



4.2.1 VALUES AND MENTAL HEALTH PROBLEMS

In relation to Schwartz's model of values (1992, 2012a), it is not possible to compare the current findings to other research done in relation to people with mental health problems (as this has not been done prior to this study), but the current results can be compared to cross-cultural findings (i.e., pan-cultural hierarchy, Schwartz, 2012b). According to Schwartz (2012b), the 'pan-cultural hierarchy' provides a baseline with which to compare the priorities in any sample, and such comparison is critical for identifying which, if any, of the value priorities in a sample are distinctively high or low. In terms of values priorities, (see table 4.1) the three groups similarly to the pan-

cultural hierarchy held benevolence and universalism as two of their top three central values, although the eating disorder and reference group have different value priorities from the cross-cultural studies. In terms of least important values (power and stimulation), the groups again showed similar value priorities to the pan-cultural hierarchy. As expected, the reference group is most closely matched in value priorities to the cross-cultural studies, to the anxiety disorder group the least and then eating disorder group. Therefore, the value priorities are similar in some ways to the pan-cultural hierarchy (e.g. the top three and bottom two) but different in other ways, and the mental health groups are the most different (particularly the anxiety disorder group).

Table 4.1: Value priorities for each group and from cross-cultural studies

Rank	Anxiety Disorder	Eating Disorder	Reference Group	Cross-cultural Studies
1	Benevolence	Benevolence	*Self-direction*	*Benevolence*
2	*Universalism*	*Self-direction*	*Universalism*	*Universalism*
3	*Conformity*	*Universalism*	*Benevolence*	*Self-direction*
4	Security	Conformity	Conformity	Security
5	Self-direction	Achievement	Security	Conformity
6	Tradition	Security	Hedonism	Hedonism
7	Hedonism	Tradition	Achievement	Achievement
8	Achievement	Hedonism	Stimulation	Tradition
9	Power	Stimulation	Tradition	Stimulation
10	Stimulation	Power	Power	Power

Based on the Schwartz model of values (1992, 2012), predictions were made about which values people with anxiety and eating disorders would have when considering their motivational similarities. The current findings supported some of these predictions; for example firstly, the eating disorder group held the achievement value as more important than the other two groups. This was predicted, as research indicates that people with eating disorders experience 'clinical perfectionism' (Wonderlich, 2002; Shafran *et al.,* 2002; Fairburn *et al.,* 2003), which in turn motivates people to be focused to achievement in life.

Secondly, it was predicted that the anxiety disorder group would hold security, conformity and tradition as their most important values compared to the other two groups. However, unexpectedly the anxiety disorder group was not found to be different to the eating disorder group in these values.

4.4 DISCREPANCIES IN VALUES AND PSYCHOLOGICAL DISTRESS

With regard to the findings from the current study, it is not possible to compare the current findings to other research done in relation value discrepancies between values in mental health populations as, to the author's knowledge, this not been done prior to the current research. However, the findings of the current study can be compared alternatively to research investigating Higgins's (1987) model of self-discrepancies in relation to self-domains. The current study findings largely provide support for Higgins's (1987) model of self-discrepancies, as AI and AO value discrepancies were evident and these were found to be related to anxiety and depression. However, the

current study, in contrast to Higgins's (1987) theory, did not find that AI was specifically associated with depression and AO with anxiety.

The current project had different aims and objectives to Rees and Maio (2009), as they were looking at whether values that are 'central' to the self function more strongly as ideal self-guides than as ought self-guides, whereas values that are 'peripheral' to the self function more strongly as ought self-guides than as ideal self-guides, and the potential emotional consequence of the difference in self-guide dominance. The current study on the other hand was concerned with whether discrepancies in values are associated with psychological distress. However, they both demonstrated that Higgins's model of self-discrepancies is an effective model and methodology for investigating different elements of values and also how they relate to emotions, and has great potential to be utilised further to explore values.

The findings from the current study largely reflect the results found from the 17 articles from the systematic review. Thus, in all of the articles (apart from Vegara-Lopez & Roberts, 2012 and Alatig *et al*., 2010), greater self-discrepancies were found in the mental health groups than in the control, which was found in the current research. However, conversely the current research found that AO values discrepancies were greater than AI value discrepancies in the overall total sample, and the articles in the review found the opposite, with AI self- discrepancies being greater than AO discrepancies overall. The findings from the articles indicated that depressed mood was highly correlated with self-discrepancies; the current study also found this with the combined mental health groups but not with the mental health groups separately.

The study investigating OCD and self-discrepancies (Ferrier & Brewin, 2005) found similarly to the current study that the OCD group had greater value discrepancies (but only AI self-discrepancies, whereas the current study found both). However, the participants in the current study with OCD were not considered uniquely, as they were combined with participants with panic disorder. Studies investigating other anxiety disorders, e.g. social phobia (Strauman, 1989; Weilage & Hope, 1989) and PTSD (Sutherland & Bryant, 2008) similarly found that participants with anxiety disorders had greater self-discrepancies. Strauman (1989) found that participants with social phobia had greater AO self-discrepancy than AI, but the other studies did not find this.

Similarly to the current study, Wonderlich *et al.* (2008) investigated self-discrepancies in people with a diagnosis of bulimia nervosa and found that the participants with bulimia nervosa were higher in self-discrepancies (both AI and AO) than the control group (for the current study this was in terms of the reference group). However, they also investigated self-discrepancies in relation to appearance-related ideal and ought standards, which the current study did not do.

In summary, the current study findings largely reflect those found by Higgins (1987, 1989, 1997, 1999) and the studies in the review. However, it is important to consider that those studies were investigating discrepancies in self-domains and that the current study was investigating discrepancies in values, although interestingly they still found (similar to the current study) that self-discrepancies were higher in the mental health samples than in the samples without mental health disorders.

4.5 STRENGTHS AND LIMITATIONS OF THIS RESEARCH

4.5.1 STRENGTHS

There are a number of theoretical and methodological strengths in the current study. The strengths will be discussed in relation to the following areas: empirical support, evidence base, design, sample, measures and the implications of these strengths.

4.5.1.2 Empirical support

One of the most important strengths of this study is that it provides empirical support and evidence for considering the values that people with mental health problems hold and the role values have in relation to the psychological distress experienced by people with mental health problems. This has been hinted at previously in Schwartz's (1992, 2012a) model of values (e.g. anxiety free and anxiety avoidance and consequences of pursuing incompatible values), and referred to in psychological theories and therapies (e.g. in value incongruent behaviour in ACT) but to date these predictions have not been empirically tested. This study therefore contributes to the evidence base by providing empirical support. In doing so it raises awareness about the role of values in psychological distress, more specifically in mental health problems, and encourages future research in this area.

4.5.1.3 Evidence base

The current research is also the first research that has tested the Schwartz (1992) model of values on clinical populations, more specifically people with anxiety and

eating disorders; therefore it is not only contributing to that evidence base but has also found that people with eating and anxiety disorders hold different values to people who co not have a mental health disorder. In addition, it is the first time that self-discrepancies in values have been investigated in relation to people with mental health problems (more specifically eating and anxiety disorders), and it is the first time that Schwartz's model of values and Higgins's model of self-discrepancies have been brought together to investigate the role values play in psychological distress, thus illustrating that this can be done effectively.

4.5.1.4 Design

The current study utilized two well established, empirically derived models, namely Schwartz's (1992, 2012a) model of values and Higgins's (1987) model of self-discrepancies.

4.5.1.5 Sample

Furthermore, the total sample size is fairly large (n=122), which is bigger than the sample size indicated in the power analysis (n=90) and 16 out of 17 studies in the review. The observed power was fairly large (see Appendix).

4.5.1.6 Measures

The current study also used well validated scales in terms of group membership (e.g. PDSS, OCI and EDE-Q) and psychological distress (HADS).

4.5.2 LIMITATIONS

There are a number of theoretical and methodological limitations that need to be noted in the current study. The limitations will be discussed in relation to the following areas: design, measures used, use of self-report measures, sampling, and the implications of these limitations.

4.5.2.1 Design

As the current study is cross sectional, the direction of the relationships cannot be clarified. Further research using longitudinal designs would allow for investigation of the direction of the relationships between the variables in the model. Statistical analysis also involved multiple comparisons comparing ten dependent variables, which could therefore increase the risk of type one error occurring. However, to account for this the significance level was more conservative at $p<.01$, but of the significant differences were $p<.001$. Multivariate statistics (i.e. MANOVA) account for this and therefore limits the risk of a type one error (Field, 2009; Tabacknick & Fidell, 2006).

A decision was taken to not transform the data when one of the assumptions were not met (e.g. normality of distribution), but the reasons for this were stated (see results). However, this could mean that the findings could have been affected by non-normally distributed data, although considering this the data still reflected the cross-cultural findings of Schwartz's model of values (1992, 2012a) which is used as a baseline for investigating differences in samples, even though the data was not normally distributed.

4.5.2.2 Measures used

The original version of the PVQ was used, but the more recent PVQ which has been adapted to fit the Schwartz (2012) refined theory of individual values could have been used. However, the refined PVQ contains 54 questions and, with adding the ideal and ought value domain question as well, this would amount to 162 questions. This would have been very taxing for the participants and would have possibly discouraged them from taking part; therefore the original PVQ could have still been the better option.

An adapted PVQ was used to incorporate Higgins's (1987) model of self-discrepancies. This measure was not extensively piloted and tested beforehand and therefore there is some evidence that in the current study, the psychometric properties of the test fell below established standards for reliability.. For instance, a Cronbach alpha test was carried out on the adapted PVQ and this indicated that the test fell below (α =.67) acceptable levels of reliability for the scale (0.7/0.8). However, further research is needed to be more confident with regards to the properties of the adapted scale. However, it was found that the adapted scale did reflect cross-cultural findings for the Schwartz model and findings from Higgins's (1987) model of self-discrepancies when tested on a mental health population.

The AI and AO value discrepancies were highly correlated, so it may have been that people found it hard to distinguish between the ideal and ought part of the question. Thus several participants did not complete these items on the PVQ and their data was either excluded or used only for the first hypothesis which was not testing self-discrepancies. To assess for this, there could have been an additional question asking participants if they understood the concepts of actual, ideal and ought and whether

they distinguish between them. Rees and Maio (2009) did this in their research and participants reported that they did not find any difficulty in distinguishing between them.

The researcher was not able to establish whether panic disorder participants had agoraphobia or not. As a result it was assumed that they did not have agoraphobia and this criterion was used to establish 'caseness' for panic disorder. However, the differences between the criteria for with and without agoraphobia were very small. In addition, the criteria for the EDE-Q had to be set for the current study as it does not state how many of the subscales need to be met in order to meet the criteria for an eating disorder. It was decided to exclude them if they did not meet the criteria for all four subscales. The implications for this could be that, as the criteria for the PDSS and EDE-Q were adapted, then it could be questioned whether the participants actual met the criteria for these disorders. However, the majority of the participants were obtained from an eating disorder service and a panic disorder service, so they would have had to meet the criteria for these disorders to access the service.

The current study could have also used other questionnaires to measure distress such as the Beck Depression Inventory or the Beck Anxiety Inventory, as these were the measures mostly used in the articles in the systematic review. However, the HADS is a reliable and valid measure of anxiety and depression and has the advantage of being shorter and therefore easy to complete, especially considering participants had a fairly large battery of measures to complete. The study also only measured psychological distress in terms of anxiety and depression; other types of distress could have been measured, but in accordance with Higgins's model (1987), anxiety and depression would suffice as these were the types of distress that were stipulated in his model.

4.5.2.3 Use of self-report measures

As with all self-report measures, the measures used may be subject to various forms of response bias and/or socially desirable responding (Van de Mortel, 2008). A social desirability scale could have been used to minimize the effect of this on research; however, none of the other articles in the systematic review used these.

4.5.2.4 Sample

Self-report measures rather than clinical assessment were used to establish whether participants met the criteria for mental health problems, and therefore this could reduce confidence that the participants met the criteria for either anxiety disorder or eating disorder. However, the majority of the participants were recruited from community mental health services, and to access this service they would need to meet the criteria of a mental health disorder. In addition, by using the self-report measures, comorbidity was not assessed and therefore the findings could have also been related to other comorbid disorders. Participants also differed in the severity of their mental health problems and this was not used as a covariate. Therefore, it was not established in this study whether the severity of the participant's level of distress impacted on the level of self-discrepancies.

The sample was underrepresented amongst male participants and older adults. Thus, 75% of the total sample was female and 97% of the eating disorder group was female. The reference group was therefore not significantly different to the anxiety disorder group but it was significantly different to the eating disorder group. The reference group was matched as far as possible to the mental health groups sample in total; it

may have been better to have a reference group for each mental health group. However, there were not enough female participants in the reference group sample to match each mental health group without the participants data being used in both groups, and therefore independence of observations would not have been achieved.

4.6 CLINICAL IMPLICATIONS

The results indicated that people with mental health problems (particularly anxiety disorders) hold different particular values (e.g. self-direction, stimulation, hedonism, achievement, power and security) to people without mental health problems, and that they have greater value discrepancies in these values (with the addition of the tradition value) than people without mental health disorders. These value discrepancies are also associated with psychological distress (e.g. anxiety and depression). Given these findings, it is important to consider the clinical implications. The implications will be outlined in terms of the clinical cycle.

4.6.1 Clinical cycle

The most important clinical implication from this study is that it stresses the importance of considering a client's values at every stage of the clinical cycle. Thus, at assessment, clinicians can clarify what their clients' values are by using a values measure, for example the PVQ or adapted PVQ used in the current study. This will also allow clinicians to also assess for values discrepancies in values or they could use the values questionnaires used in ACT. At this point, a clinician will also be able to assess a number of things, for example, whether the client is pursuing incompatible values and whether this is causing conflict, or if the client is behaving incongruently to

their values and this is causing them distress, or lastly if other people are challenging their values which could lead to distress. People's values could then be considered in the client's formulation if their values are in some way contributing to their distress (i.e. if they were behaving inconsistently to their values) or as a protective factor (i.e. when they behave consistently with their values it enhances their psychological wellbeing). Following this, value-based interventions could be utilised in accordance with the client's values to encourage value congruent behaviour to decrease psychological distress and improve their psychological wellbeing.

4.6.2 Decreasing value discrepancies

Earlier in this chapter, the findings were interpreted to suggest that people with anxiety disorders and eating disorder group are actually less personally focused and interested in personal growth via openness to change and self-enhancement and are therefore less 'anxiety free', but would ideally like to be more or less like this (as indicated in the self-discrepancies); consequently this incongruence causes them psychological distress (according to Higgins). In particular, people with mental health problems would like to be mostly more or less hedonistic, then more or less focused on self-direction, stimulation, achievement, security and lastly power. Given this, clinicians could consider values-based interventions that help the client to reduce the discrepancies in their values. To do this they could refer to the psychological interventions (e.g. Mindfulness Based Cognitive Therapy, Cognitive Behavioural Therapy and Interpersonal Psychotherapy) that have been utilised to decrease self-

discrepancies between self-domains and adapt it for values (e.g. Crane *et al.,* 2008; Strauman *et al*., 2001).

Higgins (1999) described four variables that moderate the likelihood of finding the unique discrepancy-emotion relations: the magnitude of a self-discrepancy, the accessibility of a self-discrepancy, the applicability and relevance of a self-discrepancy in a current context, and the importance of a self-discrepancy to the person. Clinicians could consider these four variables if the client has significant discrepancies in their values and from these clinicians could consider whether to devise an intervention that aims to decrease and/or change these value discrepancies.

4.6.3 Values clarification and activation

Values are often held as 'truisms', which means that we are often not consciously aware of our values. To help clients to become more aware of their values and to clarify for them what they are, value activation techniques could be used if it is beneficial for the client (see introduction section); for example asking them to provide cognitive support for their values (Maio *et al.,* 2009) or by priming their values (Bargh *et al.,* 2001; Roccas, 2003; Verplanken & Holland, 2002*).*

4.6.4 Value change

Values have largely been considered to be positive, and therefore psychological therapies such as ACT promote value congruent behaviour to manage psychological distress. However, it is possible that for some people holding particular values rigidly, inconsistently or trying to pursue incompatible values may cause them psychological distress, and that in this case their values may act as a 'risk' factor rather than a protective factor for psychological distress. If this is the case, Bardi and Goodwin (2011) have a model that outlines the processes of individual value change to which clinicians could refer.

4.7 FUTURE RESEARCH

The current study has provided initial empirical support and evidence for the values of people with anxiety and eating disorders being different to those without mental health disorders, and for values being associated with psychological distress. However, more research needs to be done to explore these findings further and to provide more evidence for the current study.

Future research could involve undertaking the current study with a larger sample size and with the reference group being more matched to the mental health groups. In addition, this research could be carried out with participants with other mental health disorders to see if similar or different results are found. This could also be done longitudinally to allow the investigation of the direction of the relationship between the values in the study. In doing this, the adapted PVQ could be tested further to ensure the reliability and validity of the measure.

As mentioned previously, it is not certain whether values can act as a risk, as protective factors or as both for people with mental health problems; it would be interesting to investigate this further. One way to investigate this could be by comparing people who are living consistently with their values to those who are not. This study focused on values and psychological distress, but it would be interesting to investigate values in relation to psychological wellbeing.

Carver *et al.* (1999) extended Higgins's theory by adding the domain of the 'feared self' which, unlike the other self-guides which imply an actual or desired (better) self, is a domain that measures what one does not desire to be. It would be interesting for future research to include the feared self when investigating discrepancies in values. Previous research has investigated the 'feared self' in relation to mental health disorders and found that people with mental health problems have greater actual:feared self-discrepancies than people without mental health problems (Vegara-Lopez & Roberts, 2012; Alatig *et al.,* 2010). Carver *et al.* (1999) also talked about 'approach' motive and 'avoid' motive, which were derived from Higgins's ideas around promotion and prevention focused strategies in relation to our self guides. It would be interesting to apply this to values and to investigate which values people with mental health problems 'approach' and 'avoid' and in what behaviour they partake to promote values and prevent value violation, as well as what impact this has on their psychological wellbeing.

Research (Branstetter-Rost *et al*., 2009; McCracken & Yang, 2006) has previously compared the effects of an ACT-based acceptance intervention with and without the values component and found it was more effective with the values component. However, this was done in relation to physical health problems and it would be interesting to investigate this is in relation to people with mental health problems. In addition, this could be tried with other psychological interventions other than ACT to see whether a value-based intervention is effective.

Schwartz (1992, 2012) refers to the possibility of people pursuing incompatible values, but does not state what effect this could have. It is likely that this could lead to psychological distress, but this has not been investigated and it would be interesting to do so with people with mental health problems. Furthermore, it would be interesting to see, if discrepancies in values were decreased, whether this would lead to improved psychological wellbeing.

Previous studies (Kinderman & Bentall, 1996; Bentall *et al.*, 2005) have also looked at self-discrepancies in relation to the 'other', for example, the 'other' being the individual's partner or family, to see whether this contributes to psychological distress. It would be interesting to undertake the current study but also including the Actual:Other dimension.

The current study has investigated discrepancies in values by looking at the difference between their actual and ideal values and their actual and ought values. The

differences between these have yielded both positive and negative values as participants rated their ideal or ought value as either higher or lower than the values they actually hold. For example, they either felt that they would ideally like to hold a particular value more (i.e. be more traditional than they actually are) and therefore their ideal score would be higher than their actual score, or they ideally would like to hold that values less (i.e. be less traditional than they actually are); in this case their ideal score would be lower than their actual score.

Given this, the value discrepancies scores not only indicate the difference between the actual and ideal score and actual and ought score, but also state a direction. In the current study, the difference between value domains has only been investigated (as is the case with Higgins model) and not the direction. Therefore, the theoretical, clinical and statistical implications of the direction of the discrepancies have not been explored in this study and therefore the importance of the direction of value discrepancies remains unknown. It would be interesting for future studies to investigate what the direction of the discrepancies could mean in terms of the development of Higgins' model of discrepancies, statistical analysis and psychological distress.

4.8 SUMMARY AND CONCLUSION

The current study utilised Schwartz's (1992;2012a) model of values and Higgins's (1987) self-discrepancy model to investigate the value priorities of participants with eating and anxiety disorders and value discrepancies and the association they have

with psychological distress. More specifically, the current study aimed to investigate whether people anxiety and eating disorders hold different values to those without mental health problems. In addition, the study aimed to investigate whether people with anxiety and eating disorders have more value discrepancies than those without mental health problems, and to see if AI value discrepancies were greater than AO value discrepancies in all the groups. The current study also aimed to test whether discrepancies in values are related to psychological distress, and what type (e.g. anxiety and depression).

The study found that the main differences between groups in values were found with the reference group, who rated particular values (e.g. self-direction, stimulation, hedonism) as more important than the mental health groups (particularly the anxiety disorders group, as the eating disorder group only differs to the reference group on hedonism), apart from achievement values where the eating disorders group rated this value as more important than the reference group and the anxiety disorders group. Significant differences in value discrepancies were also found in the same values mentioned above, with the mental health groups having higher value discrepancies in these values than the reference group. The highest value discrepancies were in hedonism, then stimulation, achievement, security, self-direction, power and lastly power (AI only). AO value discrepancies were found to be greater than AI value discrepancies when looking at the groups combined but not separately. Unexpectedly, AI value discrepancies value were found not to be specifically associated with depression, and AO value discrepancies similarly were not specifically associated with anxiety in the combined mental health groups. However, correlations were found between AI value discrepancies and anxiety and depression in the combined mental

health group, and AO discrepancies value with the combined mental health group and the anxiety group.

The findings were interpreted in accordance with Schwartz's (1992, 2012a) model of values to suggest that people with eating and anxiety disorders are actually less personally focused and interested in personal growth via openness to change and self-enhancement and therefore are less 'anxiety free', but would ideally, and feel they ought to be (as indicated in their value discrepancies) more or less personally focussed, and motivated by personal growth; consequently this incongruence causes them psychological distress.

The current research supported the majority of the findings from previous studies in relation to value and self-discrepancies in mental health disorders. The strengths and the limitations were highlighted for the current study, and the clinical implications were outlined as well as suggestions for future research.

REFERENCES

Alatiq, Y., Crane, C., Williams, J.M.G. & Goodwin, G.M. (2010). Self-discrepancy in students with bipolar disorder II or NOS. *Journal of Behavior Therapy and Experimental Psychiatry, 41*, 135-139.

Allport, G.W., Vernon, P.E., & Lindzey, G. (1960). *Study of values: Manual and test booklet* (3rd edn). In Rees, K. & Maio, G. (2011) *Social Values as Self-Guides: Value Centrality, Regulatory Focus, and Experienced Emotion*. Unpublished master's thesis, University of Gloucestershire.

American Psychiatric Association (2000). Diagnostic and statistical manual of mental disorders *(4th edn, text rev.).* Washington DC: Author

American Psychiatric Association (1984). Diagnostic and statistical manual of mental disorders *(4th edn, text rev.).* Washington DC: Author

American Psychiatric Association (1994). Diagnostic and statistical manual of mental disorders *(4th edn, text rev.).* Washington DC: Author

Anderson, N.H. (1968). Likableness ratings of 555 personality-trait words. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Antony, M. (2002). Determining the empirical status of assessment instruments. In Antony, M. & Stein, M. (Eds.) *Handbook of Anxiety and Related Disorders.* Oxford: Oxford University Press.

Austin, D.W. & Richards, J.C. (2006). A test of core assumptions of the catastrophic misinterpretation model of panic disorder. *Cognitive Therapy and Research*, *30*, 53–68.

Bardi, A. & Goodwin, R. (2011). The dual route to value change: Individual processes and cultural moderators. *Journal of Cross Cultural* Psychology*, 42 (2)*, 271-287.

Bardi, A. & Schwartz, S. (2003). Values and Behavior: Strength and structure of relations. *Society for Personality and Social Psychology. 29 (10)*, 1207-1220.

Bargh, J.A., Gollwitzer, P.M., Lee-Chai, A., Barndollar, K. & Trotschel, R. (2001). The automated will: Non-conscious activation and pursuit of behavioural goals. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Beck, A.T., Rush, A.J., Shaw, B.F. & Emery, G. (1979). *Cognitive Depression Theory.* New York: Guildford.

Beck, A.T., & Steer, R.A. (1993). *Manual of the Beck Anxiety Inventory.* In Wuyek, L., Antony. M.M. & McCabe, R.E. (2011) Psychometric properties of the panic disorder severity scale: Clinician-administered and self-report versions, *Clinical Psychology and Psychotherapy*, *18*, 234–243.

Berg, K., Peterson, C. & Frazier, P. (2012). Assessment and Diagnosis of Eating Disorders: A Guide for Professional Counselors. *Journal of Counseling & Development*, *90 (3)*, 262–269

Bentall, R.P, Kinderman, P. & Manson, K. (2005). Self-discrepancies in bipolar disorder: Comparison of manic, depressed, remitted and normal participants. *British Journal of Clinical Psychology, 44*, 457-473.

Bernard, M., Maio, G. & Olson, J. (2006). Cultural estrangement: The role of personal and societal value discrepancies. *Society for Personality and Social Psychology, 32 (1)*, 78-92.

Bilsky, W., Janik, M., Schwartz, S.H. (2011). The structural organization of human values - Evidence from three rounds of the European Social Survey. *Journal of Cross-Cultural Psychology, 42*, 759-776.

Bjelland, I., Dahl, A., Tangen Haug, T. & Neckelmann, D. (2002). The validity of the Hospital Anxiety and Depression Scale: An updated literature review. *Journal of Psychosomatic Research, 52*, 69– 77.

Branstetter-Rost, A., Cushing, C. & Douleh, T. (2009). Personal values and pain tolerance: Does a values intervention add to acceptance. *The Journal of Pain, 10 (8),* 887-892.

Cantor, J.B., Ashman, T.A., Schwartz, M.E., Gordan, W.A., Hibbard, M.R. *et al.*, (2005). The role of self-discrepancy theory in understanding post-traumatic brain injury affective disorders: A pilot study. *The Journal of Head Trauma rehabilitation, 20 (6)*, 527-543.

Carrera, M., Herran, A., Ramirez, M.L., Ayestaran, A., Sierra-Biddle, D., *et al*. (2006). Personality traits in early phases of panic disorder: Implications on the presence of agoraphobia, clinical severity and short term outcome. In Wuyek, L., Antony. M.M. & McCabe, R.E. (2011) Psychometric properties of the panic disorder severity scale: Clinician-administered and self-report versions, *Clinical Psychology and Psychotherapy, 18*, 234–243.

Carver, C.S., Lawrence, J.W. & Scheier, M.F. (1999). Self-discrepancies and affect: Incorporating the role of the feared selves. *Personality and Social Psychology Bulletin, 25 (4)*, 783-792.

Cornette, M.M., Strauman, T.J., Abramson, L.Y. & Busch, A.M. (2009). Self-discrepancy and suicidal ideation. *Cognition and Emotion, 23 (3)*, 504-527.

Calogero, R.M., Bardi, A., & Sutton, R. (2009). A need basis for values: Associations between the need for cognitive closure and value priorities. *Personality and Individual Differences, 46*, 154-159.

Crane, C., Barnhofer, T., Duggan, D.S., Hepburn, S., Fennell, M. & Williams, M.G. (2008). Mindfulness-based cognitive therapy and self-discrepancy in recovered depressed patients with a history of depression and suicidality. *Cognitive Therapy Research, 32*, 775-787.

Davidov, E., Schmidt, P. & Schwartz, S.H. (2008). Bringing values back in: The adequacy of the European Social Survey to measure values in 20 Countries. *Public Opinion Quarterly, 72 (3)*, 420-445.

Derogatiz, L.R. (1983). Administration, scoring and procedure manual II. *Clinical Psychometric Research,* 14-15.

Fairburn, C. (2008). *Cognitive Behaviour Therapy and Eating Disorders*. New York: Guildford Press.

Fairburn, C., Cooper, Z. & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: A transdiagnostic theory and treatment. *Behaviour Research and Therapy, 41*, 509-528.

Fairburn, C.G., Cooper, Z., Bohn, K., O'Connor, M., Doll, H.A. *et al.* (2007). The severity and statues of eating disorder NOS: Implications for DSM-V. *Behaviour, Research and Therapy, 45 (8)*, 1705-1715.

Fairbrother, N. & Moretti, M. (1998). Sociotrophy, autonomy and self-discrepancy: Status in depressed, remitted depressed and control participants. *Cognitive Therapy Research, 22 (3)*, 279-296.

Feather, N. (1990). Bridging the gaps between values and actions: Recent applications of the expectancy –value model. In Maio, G.R. & Olson, J.M. (1998) Values as Truisms: Evidence and Implications. *Journal of Personality and Social psychology, 74 (2)*, 294-311.

Feather, N.T. & Cross, D.G. (1975). Value systems and delinquency: Parental and generational discrepancies in value systems for delinquent and non delinquent boys. In Bernard, M., Maio, G. & Olson, J. (2006) Cultural estrangement: The role of personal and societal value discrepancies. *Society for Personality and Social Psychology, 32 (1)*, 78-92.

Ferrier, C. & Brewin, C.R. (2005). Feared identity and obsessive-compulsive disorder. *Behaviour Research and Therapy, 43*, 1363-1374.

Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Evanston, IL: Row, Peterson.

Field, A. (2009). *Discovering Statistics using SPSS* (3rd edn). London: Sage

Finch, H. (2005). Comparison of the performance of nonparametric and parametric MANOVA tests statistics when assumptions are violated. *Methodolody, 1 (1)*, 27-38.

Foa, E.B., Kozak, M.J., Salkovskis, P.M., Coles, M.E. & Amir, N. (1998). The validation of a new obsessive compulsive disorder scale: The Obsessive Compulsive Inventory (OCI). *Psychological Assessment*, *10 (3)*, 206-214.

Fontaine, J. & Schwartz, S.H. (1996). *Universality and bias in the structure of psychological questionnaire data.* In Schwartz, S.H., Melech, G., Lehmann, A., Burgess, S., Harris, M. & Owens, V. (2001) Extending the cross cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology, 32 (5)*, 519-542.

Furukawa, T., Shear, K., Barlow D., Gorman, J., Woods S., Money, R. *et al.* (2009). Evidence-based guidelines for interpretation of the Panic Disorder Severity Scale. *Depression and Anxiety, 26 (10),* 922-929.

Gebauer, J.E., Maio, G.R. & Johannes, C. (2009). Measuring values on an implicit level: Relations with explicit values, social desirability, and behaviour. In Maio, G. (2010) Chapter 1 – Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Gouzet, F.M.E., Kasser, T., Ahuvia, A., Dols, J.M.F., Kim, Y., Lau, S. *et al.* (2005). The structure of goal contents across 15 cultures. *Journal of Personality and Social Psychology, 89*, 800-816. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Grayson, D. (2004). Some myths and legends in quantitative psychology. In Field, A. (2009) *Discovering Statistics using SPSS* (3rd edn). London: Sage

Greenberg, J., Soloman, S. & Pyszczynski, T. (1997). Terror management theory of self-esteem and cultural world views: Empirical assessments and conceptual refinements. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Haloway, R.M., Heimberg, R.G. & Coles, M.E. (2006). A comparison of intolerance of uncertainty in analogue obsessive-compulsive disorder and generalized anxiety disorder. *Anxiety Disorders, 20*, 158-170.

Hawton, K., Salkovskis, P.M., Kirk, J. & Clark, D.M. (1989). *Cognitive Behaviour Therapy for Psychiatric Problems:* A practical guide. Oxford: Oxford University Press.

Hayes, S.C., Strosahl, K.D. & Wilson, K.G. (2003). *Acceptance and Commitment Therapy: An experiential approach to behaviour change.* London: Guildford Press.

Hayes, S.C. & Duckworth, M.P. (2006). Acceptance and commitment therapy and traditional cognitive behaviour therapy approaches to pain. *Cognitive and Behavioural Practice*, *13*, 185-187.

Hayes, S.C., Strosahl, K. & Wilson, K.G (1999). Acceptance and commitment therapy: An experimental approach to behavioural change. In Wilson, K.G., Sandoz, E.K. & Kitchens, J. (2010) The valued living questionnaire: Defining and measuring valued action within a behavioural framework. *The Psychological Record, 60*, 249-272.

Heidrich, S. M., Forsthoff, C.A. & Ward, S.E. (1994). Psychological adjustment in adults with cancer: the self as mediator. Health Psychology, *13 (4)*, 346-353.

Higgins, E.T., Klein, R. & Strauman, T. (1985). Self-concept discrepancy theory: A psychological model for distinguishing among different aspects of depression and anxiety. *Social Cognition, 3*, 51-76.

Higgins, E.T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review, 94,* 319-340.

Higgins, E.T. (1989). Self-discrepancy theory: What patterns of self-beliefs cause people to suffer? In Rees, K. & Maio, G. (2011) *Social Values as Self-Guides: Value Centrality, Regulatory Focus, and Experienced Emotion*. Unpublished master's thesis, University of Gloucestershire.

Higgins, E.T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In Rees, K. & Maio, G. (2011) *Social Values as Self-Guides: Value Centrality, Regulatory Focus, and Experienced Emotion*. Unpublished master's thesis, University of Gloucestershire.

Higgins, E.T. (1999). When do self-discrepancies have specific relations to emotions? The second generation question of Tangney, Niedenthal, Covert, and Barlow. *Journal of Personality and Social Psychology*, *77*, 1313-1317.

Higgins, E.T., Shah, J. & Friedman, R. (1997). Emotional responses to goal attainment: Strength of regulatory focus as moderator. *Journal of Personality and Social Psychology, 72 (3)*, 515-525.

Higgins, E.T., Strauman, T.J. & Klein, R. (1986). Standards and the process of self-evaluation: Multiple effects from multiple stages. In Strauman, T.J. & Higgins, T.E. (1988) Self-discrepancies as predictors to distinct syndromes of chronic emotional distress. *Journal of Personality, 56*, 4.

Holaway, R., Heimberg, R.G., Coles, M.E. (2003). A comparison of intolerance of uncertainty in analogue obsessive-compulsive disorder and generalized anxiety disorder. *Anxiety Disorders, 20*, 158-174.

Huppert, J.D., Barlow, D.H., Gorman, J.M., Shear, M.K. & Woods, S.W. (2006). The interaction of motivation and therapist adherence predicts outcome in cognitive-behavioral therapy for panic disorder: Preliminary findings. In Wuyek, L., Antony. M.M. & McCabe, R.E. (2011) Psychometric properties of the panic disorder severity scale: Clinician-administered and self-report versions, *Clinical Psychology and Psychotherapy, 18*, 234–243.

Johnson-Laird, P.N. & Oatley, K. (1992). Basic emotions, rationality and folk theory. *Cognition and Emotion*, *6*, 201-223. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Katz, I. & Hass, R.G. (1988). Racial ambivalence and American value conflict: Correlational and priming structures of dual cognitive structures. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Kinderman, P., Price, S., Waller, G. & Peters, E. (2003). Self-discrepancies, attentional bias and persecutory delusions. *British Journal of Clinical Psychology, 42*, 1-12.

Kinderman, P. & Bentall, R. (1996). Self-discrepancies and persecutory delusions: Evidence for a model of paranoid ideation. *Journal of Abnormal Psychology, 105 (1)*, 106-113.

Kindermans, H.P., Hujinen, I.P., Goossens, M.E., Roelofs, J. & Verbunt, J.A. (2011). “Being” in pain: The role of self-discrepancies in the emotional experience and activity patterns of patients with chronic low back pain. *Pain, 152 (2)*, 403-409.

Kluckhohn, F.R., & Strodtbeck, F.L. (1961). *Variations in value orientations.* In Rees, K. & Maio, G. (2011) *Social Values as Self-Guides: Value Centrality, Regulatory Focus, and Experienced Emotion*. Unpublished master's thesis, University of Gloucestershire.

Knafo, A., Israel, S., Darvasi, A., Bachner-Melman, R., Uzefovsky, F., Cohen, L. *et al.* (2008). Individual differences in allocation of funds in the dictator game associated with length of the arginine vasopressin 1a receptor RS3 promoter region correlation between RS3 length and hippocampal mRNA. In Bardi, A. & Goodwin, R. (2011) The dual route to value change: Individual processes and cultural moderators. *Journal of Cross Cultural* Psychology*, 42 (2)*, 271-287.

Kohn, M.L. & Schooler, C. (1982). Job conditions and personality: A longitudinal assessment of their reciprocal effects. In Bardi, A. & Goodwin, R. (2011). The dual route to value change: Individual processes and cultural moderators. *Journal of Cross Cultural* Psychology*, 42 (2)*, 271-287.

Kopelman, R.E., Rovenpor, J.L., Guan, M. (2003). The study of values: Construction of the fourth edition. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Kristiansen, C.M & Hotte, A.M. (1997). Morality and the self: implications for the when and how of value-attitude-behaviour relations. In Maio, G. (2010) Chapter 1 – Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Lee, J.A., Soutar, G.N., & Louviere, J.J. (2008). The best-worst scaling approach: An alternative to Schwartz's value survey approach. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Lohr, J.M., Olatunji, B.O. & Sawchuk, C.N. (2007). A functional analysis of danger and safety signals in anxiety disorders. *Clinical Psychology Review, 27(1)*, 114-126.

Lim Y.J., Yu B.H. & Kim J.H. (2007). Korean panic disorder severity scale: construct validity by confirmatory factor analysis. *Depression and Anxiety*, *24*, 95–102

Lungren, A.T., Dahl, J. & Melin, L. (2005). Bulls-Eye: A measure of valued living. In Wilson, K. G., Sandoz, E. K. & Kitchens, J. (2010) The valued living questionnaire: Defining and measuring valued action within a behavioural framework. *The Psychological Record, 60*, 249-272.

Maio, G.R. & Olson, J. (1995). Relations between values, attitudes and behavioural intentions. The moderating role of attitude function. In Pakizeh, A., Gebauer, J. & Maio, G. (2007) Basic human values: Inter-value structure in memory. *Journal of* Experimental *Psychology*, *47*, 458-465.

Maio, G.R. & Olson, J. (1998). Values as truisms: Evidence and implications. *Journal of* Personality *and Social Change, 74 (2)*, 294-311.

Maio, G.R. (2010). Chapter 1 – Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Maio, G.R. & Olson, M.B. (2002). Values: Truth and meaning, *The Psychologist, 15*, 296-299.

Maio, G.R., Pakizeh, A., Cheung, W. & Rees, K. (2009). Changing, priming, and acting on values: Effects via motivational relations in a circular model. *Journal of* Personality *and Social Change, 97 (4),* 699-715.

McCracken. L.M. & Yang, S. (2006). The role of values in a contextual cognitive-behavioural approach to chronic pain. *Pain, 123*, 137-145.

McColluch, Y., Clare, L., Howard, R. & Peters, E. (2006). Psychological processes underlying delusional thinking in late-onset psychosis: a preliminary investigation. *International Journal of Geriatric Psychiatry*, *21*, 768-777.

Meglino, B.M. & Ravlin, E.C. (1998). Individual values in organisations: concepts, controversies, and research. In Bardi, A. & Goodwin, R. (2011) The dual route to value change: Individual processes and cultural moderators. *Journal of Cross Cultural* Psychology*, 42 (2)*, 271-287.

Miller W.R. & Rollnick S., *Motivational Interviewing.* New York, London: Guilford Press, 1991.

Monkul E.S., Tural, U., Onur, E., *et al.* (2004). Panic Disorder Severity Scale: reliability and validity of the Turkish version. *Depression and Anxiety*, *20*, 8–16.

NICE (2006) *Clinical guideline 31. Obsessive- compulsive Disorder: Core interventions in the treatment and management of obsessive- compulsive disorder and body dysmorphic disorder*. London and Leicester: The British Psychological Society and the Royal College of Psychiatrists.

NICE (2011). *Clinical Guideline 113.Generalised Anxiety Disorder In Adults: The NICE Guideline on Management in Primary, Secondary and Community Care.* London and Leicester: The British Psychological Society and the Royal College of Psychiatrists

NICE (2004). *Clinical Guideline CG9. Eating disorders: Core Interventions in the Treatment and Management of Anorexia Nervosa, Bulimia Nervosa and Related Eating Disorders.* London and Leicester: The British Psychological Society and the Royal College of Psychiatrists.

Pakizeh, A., Gebauer, J. & Maio, G. (2007). Basic human values: Inter-value structure in memory. *Journal of Experimental Psycholog*y, *47*, 458-465.

Peng, K., Nisbett, R.E. & Wong, N.Y.C. (1997). Validity problems comparing values across cultures and possible solutions. *Psychological Methods, 2*, 329-344.

Peterson, R.A., & Reiss, S. (1993). *Anxiety Sensitivity Index revised test manual*. In Wuyek, L., Antony. M.M. & McCabe, R.E. (2011). Psychometric properties of the panic disorder severity scale: Clinician-administered and self-report versions, *Clinical Psychology and Psychotherapy, 18*, 234–243.

Pollack, M.H., Lepola, U., Koponen, H., Simon, N.M., Worthington, J.J. *et al*. (2007). A double-blind study of the efficacy of venlafaxine extended release, paroxetine, and placebo in the treatment of panic disorder. In Wuyek, L., Antony. M.M. & McCabe, R.E. (2011). Psychometric properties of the panic disorder severity scale: Clinician-administered and self-report versions, *Clinical Psychology and Psychotherapy, 18*, 234–243.

Pratto, F., Sidanius, J., Stallworth, L.M. & Malle, B.F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. In Maio, G. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Rees, K.J., & Maio, G.R. (2011). Social values as self-guides: Value centrality influences, regulatory focus, and experienced emotion. Unpublished master's thesis, University of Gloucestershire.

Roccas, S. (2003). Identification and status revisited: The moderating role of self-enhancement and self-transcendence values. *Personality and Social Psychology Bulletin, 29*, 726-736.

Roccas, S., Sagiv, L., Schwartz, S.H. & Knafo, A. (2002). The big five personality factors and personal values. *Personality and Social Psychology Bulletin, 28*, 789-801.

Rodebaugh, T.L. & Donahue, K.L. (2007). Could you be more specific, please: Self-discrepancies, affect, and variation in specificity and relevance. Journal of Clinical Psychology, *63 (12)*, 1193–1207.

Rohan, M.J. & Zanna, M.P. (1997). Value transmission in values. In Maio, G. (2010). Chapter 1 – Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Rohan. M.J. & Maiden, W. (2000). Investigations into "value-fit". In Bernard, M., Maio, G & Olson, J. (2006) Cultural estrangement: The role of personal and societal value discrepancies. *Society for Personality and Social Psychology, 32 (1)*, 78-92.

Rogers, C.R. (1964). Toward a modern approach to values: the valuing process in the mature person. *Journal of Abnormal Social Psychology*, *68*, 160-167.

Rokeach, M. (1973). *The nature of human values.* New York: Free Press

Rubin, L.H., Witkiewitz, K., Andre, J. & Reilly, S. (2007). Methods for handling missing data in the behavioural neurosciences: Don't throw the baby rat out with the bath water. *The Journal of Undergraduate Neuroscience Education, 5 (2)*, A71-A77.

Sagiv, L. & Schwartz, S. (2000). Value priorities and subjective well-being: Direct relations and congruity effects. In Bernard, M., Maio, G.R. & Olson, J. (2006) Cultural estrangement: The role of personal and societal value discrepancies. *Society for Personality and Social Psychology, 32 (1)*, 78-92.

Salkovskis, P.M. (1985). Obsessional-compulsive problems: a cognitive-behavioural analysis. *Behaviour Research and Therapy*, *23*, 571-583.

Salkovskis, P.M. (1999). Understanding and treating obsessive-compulsive disorder. *Behavioural Research and Therapy, 32,* 1-8*.*

Shear, K., Brown, T.A., Barlow, D.H., Money, R., Sholomskas, D.E. *et al.* (1997). Multicenter Collaborative Panic Disorder Severity Scale. *American journal of Psychiatry, 154 (11)*, 1571-1575*.*

Shear M.K., Rucci, P., Williams J., *et al*. (2001) Reliability and validity of the Panic Disorder Severity Scale: replication and extension. *Journal Psychiatric Research*, *35*, 293–296

Schwartz, S.H. (1977). Normative Influences in altruism. In Maio, G. R. & Olson, J. M. (1998) Values as Truisms: Evidence and Implications. *Journal of Personality and Social psychology, 74 (2)*, 294-311.

Schwartz, S.H. & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross Cultural* Psychology*, 32,* 268-290*.*

Schwartz, S.H. & Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality, 38*, 230-255.

Schwartz, S.H. (2004). Mapping and interpreting cultural differences around the world. In Vinken, H., Soeters, J. & Ester, P. (Eds.) *Comparing cultures: Dimensions of culture in a comparative perspective* (pp. 43–73). Leiden, the Netherlands: Brill.

Schwartz, S.H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In Bernard, M., Maio, G. & Olson, J. (2003) Cultural estrangement: The role of personal and societal value discrepancies. *Society for Personality and Social Psychology, 32 (1)*, 78-92.

Schwartz, S.H. (1994). Are there universal aspects in the structure and content of values? In Pakizeh, A., Gebauer, J. & Maio, G. (2007) Basic human values: Inter-value structure in memory. *Journal of* Experimental *Psycholog*y, *47*, 458-465.

Schwartz, S.H. & Sagiv, L. (1995). Identifying culture specifics in the content and structure of values. *Journal of Cross-Cultural Psychology, 26*, 92-116.

Schwartz, S.H. (1996). Value priorities and behaviour: Applying the theory of integrated value systems. In Bernard, M., Maio, G.R. & Olson, J. (2003) Cultural estrangement: The role of personal and societal value discrepancies. *Society for Personality and Social Psychology, 32 (1)*, 78-92.

Schwartz, S.H. (1997). Values and culture. In Bardi, A. & Schwartz, S.H. (2003) Values and Behavior: Strength and structure of relations. *Society for Personality and Social Psychology. 29 (10)*, 1207-1220.

Schwartz, S.H. (2005a). Basic human values: Their content and structure across countries. In Tamayo, A. & Porto, J. B. (Eds.), *Valores e comportamento nas organizações* [Values and behavior in organizations] (pp.21–55). Petrópolis, Brazil: Vozes.

Schwartz, S.H. (2005b). Robustness and fruitfulness of a theory of universals in individual human values. In Tamayo, A. & Porto, J.B. (Eds.), *Valores e comportamento nas organizações* [Values and behaviour in organizations] (pp. 56–95). Petrópolis, Brazil: Vozes.

Schwartz, S.H., Vecchione, M., Fischer, R., Ramos, A., Demirutku, K. *et al*. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology, 103 (4)*, 663-688.

Schwartz, S.H. (2012b). An Overview of the Schwartz Theory of Basic Values. *Online Readings in Psychology and Culture, 2(1)*. http://dx.doi.org/10.9707/2307-0919.1116.

Schwartz, S.H. (2006a). Les valeurs de base de la personne: Théorie, mesures et applications [Basic human values: Theory, measurement, and applications]. *Revue Française de Sociologie, 47,* 249-288.

Schwartz, S.H. (2006b). Value orientations: Measurement, antecedents and consequences across nations. In Jowell, R., Roberts, C., Fitzgerald, R. & Eva, G. (Eds.) *Measuring attitudes cross-nationally – lessons from the European Social Survey* (pp.169-203). London, UK: Sage.

Scott, L. & O'Hara, M.W. (1993). Self-discrepancies in clinically anxious and depressed university students. *Journal of Abnormal Psychology, 102 (2)*, 282-287.

Sears, D.O. (1988). Symbolic Racism. In Maio, G.R. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Seligman, C. & Katz, A. (1996). The dynamics of values systems. In Maio, G.R. & Olson, J.M. (1998) Values as Truisms: Evidence and Implications. *Journal of Personality and Social psychology, 74 (2)*, 294-311.

Shafran, R., Cooper, Z., & Fairburn, C.G. (2002). Clinical perfectionism: a cognitive-behavioural analysis. In Fairburn, C., Cooper, Z. & Shafran, R. (2003) Cognitive behaviour therapy for eating disorders: A Transdiagnostic theory and treatment. *Behaviour Research and Therapy, 41*, 509-528.

Smink, F., Van Hoenke, D. & Hoek, H. (2012). Epidemiology of eating disorders: Incidence, prevalence and mortality rates. *Current Psychiatry Reports*, *14*, 406–414

Steele, C.M. & Liu, T.J. (1983). Dissonance processes as self-affirmation. In Maio, G.R. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Steele, C.M. & Liu, T.J. (1988). The psychology of self-affirmation: Sustaining the Integrity of the self. In Maio, G.R. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Strauman, T.J. (1989). Self-discrepancies in clinical depression and social phobia: Cognitive structures that underlie emotional disorders. *Journal of Abnormal Psychology, 98 (1)*, 14-22.

Strauman, T.J. & Higgins, E.T. (1987). Automatic activation of self-discrepancies and emotional syndromes: When cognitive structures influence affect. *Journal of Personality and Social Psychology, 53*, 1004-1014.

Strauman, T.J. & Higgins, E.T. (1988). Self-discrepancies as predictors of vulnerability to distinct syndromes of chronic emotional distress. *Journal of Personality, 56 (4)*, 685-707.

Strauman, T.J., Kolden, G.G., Stromquist, V., Davis, N., Kwapil, L., Heerey, E. & Schneider, K. (2001). The effects of treatments for depression on perceived failure in self-regulation. *Cognitive Therapy and Research*, *25 (6)*, 693-712.

Strosahl, K., Hayes, S.C., Wilson, K.G. (2004). An acceptance and commitment therapy primer: Core therapy processes, intervention strategies, and therapist competencies. In Wilson, K.G., Sandoz, E.K. & Kitchens, J. (2010) The valued living questionnaire: Defining and measuring valued action within a behavioural framework. *The Psychological Record, 60*, 249-272.7

Tabachnick, B.G. & Fidell, L.S. (2006). Using Multivariate Statistics (5th Edn). New York: Pearson.

Sutherland, K. & Bryant, R.A. (2008). Autobiographical memory and the self-memory system in post-traumatic stress disorder. *Journal of Anxiety Disorders*, *22*, 555-560.

Tanner, C., Medin, D.L. & Iliev, R. (2008). Influence of deontological versus consequentialist orientations on act choices and framing effects: When principals are more important than consequences. In Maio, G.R. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Tangney, J.P, Niedenthal, P.M., Covert, M.V. & Barlow, D.H. (1998). Are shame and guilt related to distinct self-discrepancies: A test of Higgins's (1987) hypotheses. *Journal of Personality and Social Psychology, 75*, 257-268.

Tetlock, P.E. (1986). A value plurism model of ideological reasoning. In Maio, G.R. (2010) Mental representations as social values. *Advances in Experimental Psychology, 42*, 1-43.

Tolin, D.F., Abramowitz, J.S., Brigidi, B.D. & Foa, E.B. (2003). Intolerance of uncertainty in obsessive-compulsive disorder. *Journal of Anxiety Disorders, 17*, 233–242.

Twohig, M., Hayes, S., Plumb, J., Pruitt, & Collins, A. *et al.* (2010). A randomized clinical trial of acceptance and commitment therapy versus progressive relaxation training for obsessive – compulsive disorder. *Journal of Consulting and Clinical Psychology, 78 (5)*, 705-716.

Van den Broeck, K., Claes, L., Pieters, G. & Raes, F. (2012). Memory specificity in borderline personality disorder: Associations with depression and self-discrepancy. *Journal of Behavior Therapy and Experimental Psychiatry, 43*, 51-59.

Van de Mortel, T.F. (2008). Faking it: Social desirability response bias in self report research, *Australian journal of Advanced Nursing*, 25, 40- 48.

Vegara-Lopez, C. & Roberts, J. (2012). Self-discrepancies among individuals with a history of depression: The role of feared self-guides. *Cognitive Therapy Research, 36*, 847-853.

Verkasalo, M., Goodwin, R. & Bezmenova, I. (2006). Values following a major terrorist incident: Finnish adolescent and student values before and after September 11, 2001. *Personality and Social Psychology, 36*, 144-160.

Verplanken, B., & Holland, R.W. (2002). Motivated decision making: Effects of activation and centrality of values on choices and behaviour. In Rees, K. & Maio, G.R. (2011) *Social Values as Self-Guides: Value Centrality, Regulatory Focus, and Experienced Emotion.* Unpublished master's thesis, University of Gloucestershire.

Wagner, C.C. & Sanchez, F. (2004). The role of values in motivational interviewing. In McCracken, L.M. & Yang, S. (2006) The role of values in a contextual cognitive-behavioural approach to chronic pain. *Pain, 123*, 137-145.

Weilage, M. & Hope, D.A. (1999). Self-discrepancy in social phobia and dysthymia. *Cognitive Therapy and Research, 23 (6)*, 637-650.

Wilson, K.G. (2009). *Mindfulness for two: An acceptance and commitment therapy approach to mindfulness in psychotherapy.* In Wilson, K.G., Sandoz, E.K. & Kitchens, J. (2010) The valued living questionnaire: Defining and measuring valued action within a behavioural framework. *The Psychological Record, 60*, 249-272.

Wilson, K.G. & Murrell, A.R. (2004). Values work in acceptance and commitment therapy: Setting a course for behavioural treatment. In Wilson, K.G., Sandoz, E.K. & Kitchens, J. (2010) The valued living questionnaire: Defining and measuring valued action within a behavioural framework. *The Psychological Record, 60*, 249-272.

Wilson, K.G., Sandoz, E.K. & Kitchens, J. (2010). The valued living questionnaire: Defining and measuring valued action within a behavioural framework. *The Psychological Record, 60*, 249-272.

Wonderlich, S.A. (2002). The treatment of binge eating disorder. *European Eating Disorders Review, 8*, 351- 354. In Fairburn, C., Cooper, Z. & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: A Transdiagnostic theory and treatment. *Behaviour Research and Therapy, 41*, 509-528.

Wonderlich, S.A., Engel, S.G., Peterson, C.B., Robinson, M.D., Crosby, R.D. *et al*. (2008). Examining conceptual model of integrative cognitive-affective therapy for BN: Two assessment studies. *International Journal of Eating Disorders, 41*, 748-754.

Yamamoto I., Nakano, Y., Watanabe N., *et al*. (2004). Cross-cultural evaluation of the Panic Disorder Severity Scale in Japan. *Depression and Anxiety*, *20*, 17–22

Zigmond, A.S. & Snaith, R.P. (1983). "The hospital anxiety and depression scale". *Acta Psychiatrica Scandinavica*, *67 (6)*, 361–370.