# Unstable Sense of Self in Borderline Personality Disorder:

# A Problem of Role Absorption and Lack of Integration?

# And

# Clinical Research Portfolio

Part One

(Part Two bound separately)

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Running Title: Unstable Sense of Self in BPD

# Chapter 1

# Is A Diagnosis of Borderline Personality Disorder Associated With A Specific Attachment Style? A Systematic Review and Clinical Applications

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***ABSTRACT***

Attachment theory is increasingly being utilised as a framework for conceptualising Borderline Personality Disorder (BPD). Previous reviews of the attachment and BPD literature have demonstrated a variety of insecure attachment styles associated with BPD, and in addition have identified limitations and gaps within the evidence base. The present review employed a systematic approach to appraise recent studies of insecure attachment in BPD, identifying nine recent empirical studies that had not yet been subject to review. Findings from both narrative and self report measures identify high rates of preoccupied and fearful attachment styles, however trauma experiences, unresolved status and the "cannot classify" category are also highly prevalent. Limitations, recommendations for future research and clinical applications are discussed.

Borderline Personality Disorder is a DSM-IV Axis II diagnostic category reflecting complex and enduring difficulties experienced by individuals, particularly with regards to emotional regulation (Morse et al 2009), sense of self (Marcia, 2006; Jorgensen, 2009), and interpersonal functioning (Aaronson et al 2006; Minzenberg et al 2006; Linehan, 1993. Individuals diagnosed with Borderline Personality Disorder (or Emotionally Unstable Personality Disorder ICD-10) must attempt to cope with long standing distress and instability which is rooted developmentally, and is in part related to an intense fear of real or perceived abandonment (Gunderson 1996, DSM-IV, 1994; ICD-10; 1992). In the absence of stable relationships in which to regulate emotions, people with Borderline Personality Disorder (BPD) often employ damaging, high risk coping strategies such as self harm, suicide attempts (Davidson et al, 2006; Scott et al 2009), and substance misuse. As a result, individuals with BPD frequently present to mental health services, representing approximately 10% of psychiatric outpatients and 20% of inpatients, despite an estimated general population prevalence of only 0.7% (Borderline Personality Disorder: Treatment and Management, 2009; Levy, 2005). Individuals with BPD experience significantly higher rates of comorbidity, including depression, anxiety disorders, bipolar affective disorder, eating disorders and PTSD, than individuals without personality disorder, (Zimmerman & Mattia, 1999). In addition, individuals with BPD report chronic traumatic experiences beyond the diagnostic scope of PTSD, such as prolonged exposure to childhood sexual abuse, physical abuse, and neglect (Zanarini, 2000). Axis II comorbidity rates are also high (Fossati et al, 2003).

Given the painful consequences of these difficulties, it is essential that a robust and empirically tested psychological formulation for understanding BPD is available. In recent years, attachment theory has been suggested as a framework for understanding the

mechanisms that underpin the core difficulties experienced by those with BPD. Attachment theory may have much to offer in this respect, in particular its capacity to conceptualise BPD from its earliest developmental beginnings, and its focus on how individuals relate to others. To date, a large number of studies have sought to measure attachment in individuals with BPD, with the evidence base progressing to the stage that BPD, along with other personality disorders, is now confidently conceptualised as a disorder of insecure attachment (Bender et al 2001; Minzenberg et al, 2006).

## *THE CURRENT LITERATURE*

The increase in attachment research in recent years appears to have benefited individuals with BPD; particularly with the development of attachment based psychological interventions such as Schema Therapy (Kellogg & Young 2006), Mentalization-Based Therapy, (Bateman & Fonagy, 2004) and Cognitive Analytic Therapy (Ryle, 1997). However, the research base is hardly at a consensus regarding the specific contributions made by different attachment styles in the development and maintenance of BPD. Studies report a wide range of attachment styles for individuals with BPD, and the research findings are based on studies utilising a wide range of different participants, for example undergraduate students, violent offenders, long term psychiatric inpatients and groups of individuals receiving private health care. An array of attachment measures have been used, which may not be measuring the same constructs. Studies also vary widely in their approach to assessing BPD, ranging from reviewing case notes, to screening for diagnostic features, to assessment with semi-structured interviews. In light of such a mixed and varied collection of studies, it is important to be clear about what conclusions can and cannot be drawn.

Previous reviews (Agrawal et al, 2004; Levy 2005) have sought to draw together this diverse evidence base, by providing a review of empirical studies. Agrawal et al (2004) reviewed 13 studies published between 1991 and 2003, and found that unresolved, fearful, and preoccupied attachment styles were most characteristic of BPD. The authors report the limitations of the review in light of the methodological and design weakness of the empirical evidence base, and call for future studies to utilise large, carefully diagnosed participant groups, and to develop measures that are based on the complex patterns of attachment observed in clinical populations, rather than on non-clinical normative data. Levy (2005) reviewed 24 studies, and in contrast to Agrawal et al (2004), included case studies and clinician-rated attachment studies, but with less emphasis on critiquing research methodologies. The conclusions were that BPD is not specifically related to a particular attachment style, but that disorganised attachment may be a mechanism by which trauma and loss experiences lead to the development of BPD. The author also noted weaknesses in the research to date, in particular the limited use of the "cannot classify" attachment style category in studies. This category, which represents multiple contradictory and fragmented attachment processes, is emerging as being highly relevant to individuals with BPD (van IJzendoorn, 1992, Diamond et al, 2003; Levy et al, 2006). Therefore these previous reviews, although not systematic, have contributed to advancing understanding of BPD in the attachment context, whilst also identifying gaps and problems in the evidence base. The present review seeks to add to findings of previous reviews by conducting a systematic review of literature in order to investigate, in the light of new evidence, whether a particular attachment style is associated with BPD. Critical appraisal of studies will be offered, with consideration given to the limitations identified by earlier reviews, in order to investigate whether further research has improved upon these issues.

## *ATTACHMENT THEORY*

Attachment theory was first proposed approximately 40 years ago (Bowlby, 1969). It asserts that from birth, children strive to develop attachment bonds with their care giver (usually their mother), and this process is biologically based (Bowlby 1969; Cassidy & Shaver, 2008). Attachment behaviours on the part of the infant achieve proximity to the care giver. Greater proximity is sought at times of stress (when the attachment system becomes activated) in order to receive safety and soothing from the care giver, emphasising the reciprocal nature of attachment (Ainsworth, 1989). Thus attachment has a critical function in terms of offering protection and security which are optimal conditions for survival. Within the context of secure attachment relationships, the child has a base from which to explore the world; developing skills in problem solving, emotional regulation, mentalization (Fonagy & Bateman, 2008), and developing sense of self. The attachment relationship becomes internalised, so that individuals begin to develop internal working models of the self in relation to others. Individuals can then utilise internal representations of relationships to process events, regulate emotions and generally make sense of the world, without the physical presence of an attachment figure being required.

The importance of developing secure attachments is therefore perhaps obvious. However some individuals develop insecure styles of attachment. This can occur for many reasons, for example having an unresponsive, inconsistent, or frightening care giver, or due to disruptions to development, for example experiences of trauma. For the vast majority of individuals with BPD, research studies report that attachment security has not been achieved. They have insecure styles of attachment, which persist into adulthood (Bowlby, 1973; Stein et al, 1998). Insecure attachment is a broad definition, encapsulating several attachment styles which

differ greatly in their presentation and underlying representations of self and others (Bartholomew & Horowitz 1991), and may require different therapeutic responses. The present systematic review of the specific attachment styles held by individuals with BPD may help contribute more common ground to understanding this diverse and heterogeneous disorder (Critchfield et al 2008).

## *MEASURING ATTACHMENT STYLE*

The issue of how to measure insecure attachment is a controversial one that, due to its complexity, is unlikely to be resolved. It is however, an issue that must be carefully considered when reviewing the current evidence base regarding attachment and BPD (Agrawal et al, 2004). There are two main methods for measuring attachment style in adults – narrative and self report, which have developed from developmental and social psychology traditions respectively. Narrative measures include the Adult Attachment Interview (AAI) (George, Kaplan, and Main, 1985), and the Adult Attachment Projective (AAP) (George & West, 2001); and self report measures include the Relationships Questionnaire (RQ) (Bartholomew & Horowitz, 1991), Experiences in Close Relationships Questionnaire (ECR) (Brennan et al, 1998), The Attachment Style Questionnaire (ASQ) (Feeney et al, 1994), the Reciprocal Attachment Questionnaire (RAQ) (West & Sheldon–Keller, 1992), the Attachment Styles Inventory (ASI) (Sperling & Berman, 1991) and the Three Category Measure of Attachment (TCM) (Hazan & Shaver, 1987). Evidence suggests these different methods result in the measurement of concepts that may overlap but are still distinct – statistical associations between attachment interviews and self report questionnaires are noted to be generally weak (Holtzworth-Munroe et al, 1997; Bartholomew & Shaver, 1998; Riggs et al, 2007; Crowell et al, 2008). Therefore two studies reporting the same insecure

attachment style for individuals with BPD potentially only report on the same constructs if they have used the same type of measure.

### *Narrative Measures*

Within the BPD literature, the AAI is the most widely used of the narrative measures, although the AAP is also used. The AAI's original scoring system is based on analysing the overall coherence and consistency of an individual's discourse, and their use of language in relation to attachment figures from their childhood (usually parents). It utilises a categorical system for classifying attachment styles as secure-autonomous, dismissing, preoccupied, unresolved or "cannot classify". Proponents of narrative measures claim their strength is in the theory that working models of attachment relationships operate to some extent out with conscious awareness and, therefore, cannot be accessed fully using self report techniques, in particular when an individual has a dismissing attachment style. The psychometric properties of the AAI are well established, including high stability, discriminant and predictive validity (van IJendoorn, 1995; Sagi et al, 1994). It is considered by some sources to be a gold standard measure (Choi-Kain et al, 2009). The AAP has been more recently developed, and has not been utilised in many published studies. It presents individuals with photographs that relate to attachment scenarios, and measures the discourse, content, and defensive processing contained in their response to each photograph. The measure demonstrates high inter-rater reliability on four attachment categorisations – secure, dismissing, preoccupied, and unresolved – and is reported to have good correspondence with the AAI (George & West, 2001).

### *Self Report Measures*

Self report measures are more widely used in BPD research. Their popularity is likely due to the excellent psychometric properties of some questionnaires (Critchfield et al 2008; Meyer et al 2004; Rigg et al, 2007; Feeney et al, 1994) and that they are a quick and cost effective tool. The ASI considers individuals' attachment with parents, friends and partners, and has relatively low reliability and mixed reports of validity (Stein et al 1998). Other measures, for example the ECR focus solely on romantic relationships or those with peers, and offer high predictive and discriminant validity (Rigg et al, 2007; Critchfield et al, 2008). The ASQ, in which participants rate items related to positive and negative perceptions of self and others, is noted to have satisfactory contrast validity and reliability (Feeney et al, 2004). The RAQ is reported to have good reliability on most subscales (Aaronson et al, 2006), with the RQ demonstrating more variable psychometric properties (Choi-Kain et al, 2009).

### *Strengths and Weaknesses of the Measures*

Different choices of target attachment figures in the measures adds further complexity to a review of the research base, as whilst it is generally assumed that romantic attachment styles are an extension of parent-child attachment, some authors point out that there is actually no direct evidence to empirically confirm this link (Riggs et al, 2007). Agrawal et al (2004) also note that even when measures focus exclusively on parental attachment figures, variations in self reported attachment style can still occur if different parents are selected. Most self report measures conceptualise attachment in terms of dimensions, rather than the categories used in narrative measures. This use of dimensions is argued to be a strength, particularly in a diverse clinical group such as BPD, in which an individual may utilise more than one attachment style (Fraley & Waller, 1998; Scott et al, 2009). In this way, attachment can be

considered on two orthogonal dimensions – anxiety, which is associated with fear of abandonment and negative view of self, and avoidance, which represents discomfort with closeness and negative representations of others (Brennan et al 1998; Scott et al, 2009). However critics of self report methodology argue that it is weak in that it is more likely to measure relationship satisfaction or attitudes to relationships, or the outcomes of attachment experiences rather than a particular style of attachment (Bernier & Dozier 2002). Given the clear differences between self report and narrative measures, their findings in relation to attachment style in BPD will be discussed separately in this review.

### *Research questions*

Is any specific attachment style associated with a diagnosis of Borderline Personality Disorder?

In order to comprehensively consider the above question, the following questions will also be addressed:

- Who are the participants involved in the studies?
- What measures are utilised to measure attachment?

## METHODS

### *Search Strategy*

A multi-database text word search was conducted using OVID. The multi-database search incorporated searches of PsycINFO, MEDLINE, Social Policy and Practice, Social Work Abstracts, EMBASE, ERIC and EBM Reviews databases. The search term (attach* and

(BPD or borderline personalit* or emotionally unstable personalit*)) was utilised along with "NOT" (bronchopulmonary dysplasia or bone probing depth or bipolar disorder), in order to exclude papers that were clearly irrelevant to the topic. Results were limited to articles published between 1980 and March 2010. Following the removal of duplicates the multi-database search returned 328 articles.

Following the multi-database search, a subject headings search was conducted for each individual database. PsycINFO returned 126 articles, Medline (284), EMBASE (55), ERIC (13), and Social Policy and Practice (1).

In addition to the above database searches, a multi-database search of EBSCO Psychology and Behavioural Sciences Collection and Health and Nursing databases was conducted, returning 18 articles. A subject heading search of the Psychology and Behavioural Sciences Collection returned 13 articles, and Health and Nursing, 3.

The reference sections of the final set of included articles were also searched, returning no additional articles.

***Inclusion Criteria***

- Empirical studies of attachment in adults with Borderline Personality Disorder or Borderline traits.
- Articles available in English language.
- Articles published between 1980 – March 2010.
- Studies assessed attachment and Borderline Personality Disorder or Borderline traits using a validated measure.

- Studies meet the standards set by quality rating criteria

***Exclusion Criteria***

Articles were initially excluded from the search results if they were written in a foreign language, or were based on topics that were irrelevant to BPD and attachment. Review articles were also excluded, as were relevant articles not published in peer reviewed journals. Based on these criteria, 302 articles were excluded from the OVID multi-database search, and 14 from the EBSCO multi-database search. From the subject headings database specific results, 125 articles were excluded from PsycINFO, MEDLINE (282), Social Policy and Practice (1), EMBASE (52), ERIC (11), Psychology and Behavioural Sciences Collection (9), and Health and Nursing (1). A remaining 15 duplicates were also removed (See Appendix B for a full summary of excluded articles).

With the above exclusion criteria applied, 32 articles remained and were read by the reviewer. 12 further articles were excluded as they had not specifically measured attachment (Prunetti et al 2007; Zulueta & Mark, 2000), used non-validated attachment measures (Diamond et al, 2003; Lyons-Ruth et al; 2007, Meyer et al, 2001, and Morse et al, 2009), did not formally assess the presence of BPD (Westen et al, 2006; Sperling et al, 1991; Sack et al, 1996), focused exclusively on adolescent populations (Kobak et al, 2009 and Rosenstein & Horowitz, 1996), or had not reported sufficient detail on attachment styles to address the review question (Minzenberg et al 2008).

***Quality Rating***

The remaining 20 articles were reviewed using quality rating criteria based on the SIGN Methodology Checklist for Case-Controlled Studies. This checklist was selected from the NICE guidance for BPD (2009) and because case-controlled methodology was most prevalent in the search results, representing the best level of evidence available for a review question focused on an issue of human development. The remaining articles included one RCT (Levy et al 2006) which was rated using an adapted version of the SIGN Checklist for Controlled Trials. Adaptations to both checklists provided special consideration to aspects of methodology with crucial relevance to the review question, in particular the assessment of BPD and attachment. (Please see Appendix C). A subset of 8 articles were chosen at random to be rated by a second reviewer. The second reviewer was a Trainee Clinical Psychologist blind to the ratings of the first reviewer. There was total agreement (100%) between both raters.

On the basis of the quality rating, four papers were excluded from the final set as they did not fulfil sufficient criteria. Meyer et al (2005) was excluded as it used an adolescent attachment measure on an adult population. Fossati et al (2005) was excluded as it did not report enough data from the Attachment Style Questionnaire to answer the review question. Bender et al (2001) was rejected as it did not clearly define the level of borderline traits present within the study sample, and did not differentiate these from traits of several other personality disorders. Patrick et al (1994) was rejected as it allocated participants to a BPD group based solely on a review of their psychotherapy case notes.

**PARTICIPANTS**

The studies included for review (16) utilised a wide range of participants and measurement

tools which are summarised in Table 2. In addition, further variations in studies exist. For example, some individuals were paid for participation (Mauricio et al 2007), participated as part of an ongoing treatment program (Choi-Kain et al, 2009), or as part of a clinical trial (Levy et al 2005, 2006; Critchfield et al 2008). Studies that included university students offered them course credit for participating (Meyer et al 2004; Scott et al 2009). It is also important to note that students recruited tended to be studying psychology and hence may not have been naive to the purpose of studies. A further problem with the studies is that some apply strict exclusion criteria, excluding a wide range of possible co-morbid disorders, arguably embarking on research with a group that is not representative of the wider population of individuals with BPD, who, as discussed, demonstrate high rates of co-morbidity. Other studies measure co-morbidity and report it or include in the analyses, whilst still other studies fail to measure or report potential confounders, in particular rates of childhood trauma, which is also significantly associated with attachment insecurity (Baer & Martinez, 2006). The disadvantage of the heterogeneity of groups highlighted by Table 1 is that it is difficult to compare results between studies. However, it is also true that if any attachment style is found to be associated with BPD across this wide variety of samples there would be reason to be confident in this association.

INSERT TABLE 1 HERE

## RESULTS

For the purpose of this review the results will be discussed according to the methodology used by each study. The results will therefore be presented in three main categories - studies

that used self report methods, studies that used narrative measures, and studies that utilised both narrative and self report methods. Studies that used both narrative and self report measures are presented first, as these studies have an important contribution to make it terms of comparing results from contrasting methods within the same group of individuals with BPD.

## ATTACHMENT STYLES MEASURED BY SELF REPORT AND NARRATIVE METHODS

### *SECURE*

Only one study of the 16 reviewed used both types of measures, Riggs et al (2007), with a participant group of 80 inpatients, 17 of whom had MCMI-II diagnoses of BPD. In this study, 5% of the group had secure attachment styles when measured using the Experiences in Close Relationships scale (ECR). This finding is perhaps surprising, given that the participant group recruited for this study had been recruited from a specialist trauma treatment program, and had experienced very high rates of interpersonal trauma. Using the Adult Attachment Interview (AAI) this percentage was higher, 7.5%. Furthermore, when the unresolved participants from this study were re-classified according to the best-fitting primary classification, 21.3% of the individuals were noted to have secure attachment styles. This finding would appear to demonstrate the potential differences reported in the use of self report and narrative methods.

### *INSECURE*

With regards to insecure attachment styles among individuals with BPD, Riggs et al (2007) measured the following insecure attachment styles using the ECR: dismissing (17.5%), preoccupied (20%) and fearful (57.5%). In contrast, using the AAI , 80% of individuals with BPD were classified as having an unresolved attachment style, with 5% dismissing, 5% preoccupied, and 1.5% being assigned the "cannot classify" attachment style category. Unresolved attachment style is theorised to be neither stable nor enduring, but rather a temporary collapse of the individual's usual strategy and their cognitive organisation due to a lack of resolution of trauma or loss experiences The high rate of unresolved status in this study is perhaps to be expected in such a traumatised group, 90% of whom reported experiencing childhood sexual abuse. When the unresolved participants were re-classified with the best-fitting primary classification, 15% were dismissing, 30% preoccupied, and 27.5% "cannot classify". This study is unique and valuable in bringing together the use of contrasting measures with the sample participant group. However it must be considered that with such high rates of trauma amongst participants, the study may not be representative of the wider population of those with BPD. The insecure attachment styles measured in this sample may have been due to trauma experiences, rather than BPD diagnosis. Nonetheless, similar rates of insecure attachment are reported in the other studies, with fearful, preoccupied and unresolved being the most frequently endorsed styles.

## ATTACHMENT STYLES MEASURED BY SELF REPORT

### *SECURE*

Two self-report studies include evidence suggesting that some individuals with BPD have a secure attachment style. Levy et al (2005) report that on the RQ, 8% of their 91 BPD patients had secure attachment, although the ECR scores for the same group would suggest that this

percentage is smaller, 2%. Minzenberg et al (2006) found higher rates of secure attachment on the ECR in a smaller sample - 7% of their 40 SCID-II diagnosed BPD patients had a secure attachment style. Therefore self report indicates secure attachment style is present in BPD samples, albeit in a minority.

## *INSECURE*

### *Non clinical groups*

Three studies that used self-report measures found insecure attachment in non-clinical groups. Meyer et al (2004) found anxious attachment measured by the ECR was significantly correlated with BPD features in their study of 176 undergraduate psychology students (0.45, $p<.01$). It is also of note that BPD features in this study were significantly correlated with Avoidant Personality (0.47, $p<.01$) and Schizoid Personality (0.29, $p<.01$), and that Avoidant Personality was also significantly correlated with anxious attachment (0.37, $p<.01$). Whilst this does not negate the association found between BPD features and anxious attachment, it does suggest that the mechanisms underlying this association are not exclusive to BPD.

Scott et al (2009) also completed a study with a large sample of undergraduate psychology students, who were split into two groups to perform cross-validation of results. The study utilised the updated version of the ECR (ECR-R, Fraley et al, 2000) and measured BPD features according to the McLean Screening Instrument for BPD (MSI-BPD) and the IPDE-SQ. Interestingly in this study, a significant correlation was found between attachment anxiety and attachment avoidance ($r=0.55$, $p<.001$) which is of note as a combination of high scores on these two dimensions has been conceptualised as reflective of a fearful attachment

style. Controlling for this association, the study found attachment anxiety to be significantly related to trait negative affect and impulsivity, which in turn were directly related to BPD features. Direct pathways between attachment styles (anxiety and avoidance) and BPD features were not significant, and the authors conclude that the relationship between BPD features and insecure attachment style is therefore fully mediated by trait negative affect and impulsivity. The authors however do not discuss that measures of negative affect and impulsivity are likely to address similar constructs to those that underlie BPD. Failure to consider the overlap in these constructs is a weakness of this study, as it potentially complicates understanding of the association between BPD and insecure attachment styles.

In addition, a weakness of both Scott et al (2009) and Meyer et al (2004) is that they are unclear regarding prevalence of BPD features in the non clinical samples. There are no explicit statements made regarding the size of data set on which correlations are based. Scott et al (2009) report mean scores of 6.13 and 6.37 on the IPDE-BPD, and 10.91 and 10.64 on the MSI-BPD; however it is not clear what these scores represent in terms of the extent of BPD features present. Large standard deviation scores are reported however, suggesting a high level of variation in the sample. It is therefore difficult to ascertain the extent to which results can be generalised to individuals diagnosed with BPD. In this regard, the contribution these studies can make to developing understanding of the attachment styles associated with BPD is limited.

A third study with a non clinical group of students (Nickell et al, 2002) measured borderline features using the SIDP-IV, allocating 197 participants to a BPD features group, and 224 to a non-BPD group. The study combined the results of the SIPD-IV with PAI-BOR and MMPI-

BPD scores to calculate a "Borderline Factor Score" for each participant. The Revised Three Category Measure of Attachment (TCM-R) was used to measure attachment style. Borderline Factor Score was negatively correlated with secure attachment style (0.44, $p<.001$), positively correlated with avoidant attachment (0.33, $p<.001$) and positively correlated with anxious or ambivalent attachment (0.35, $p<.001$). A strength of this study is its extensive measurement of possible co-morbid conditions. It demonstrated via hierarchical regression analysis that attachment patterns account for a greater degree of variance in Borderline Factor Score than loss, physical abuse or sexual abuse, however a lesser degree than the presence of Axis I disorders and non-BPD Axis II symptoms. This finding offers greater clarity to the association between BPD and avoidant and anxious attachment styles.

***Clinical Groups***

Seven studies were reviewed that found insecure attachment in clinical groups using self-report measures. Choi-Kain et al (2009) utilised the RQ with a patient sample of 109 BPD patients who had their diagnosis confirmed using semi-structured interview techniques (DIB-R and DIPD-IV). Two control groups were used in this study: a depressed group, and a group of individuals with neither depression nor borderline features, but who may have had other mental health problems (NBC group). On the RQ, the BPD group had significantly more preoccupied and fearful styles of attachment than both depression and NBC groups, and no significant differences were found between groups for the dismissing attachment style. A key strength of this study was its measurement of possible co-morbidities, allowing analyses to be repeated after exclusion of data for patients with secondary diagnoses of PTSD or other personality disorders. The results are noted to be "qualitatively similar" – the only difference being that scores for the fearful attachment style no longer differentiated the BPD and

depression group. This finding perhaps indicates that fearful attachment style may develop from traumatic experience. However attachment insecurity in BPD is not simply due to trauma experienced by those with a BPD diagnosis, given that BPD participants remained significantly more likely to have a preoccupied attachment style than the other groups. This study therefore offers important information about the association between BPD and preoccupied attachment style, whilst controlling for relevant confounding factors.

Attachments styles for a further 40 outpatients with SCID-II diagnosed BPD were measured using the ECR by Minzenberg et al (2006). It is of note that, similar to Choi-Kain et al's final analysis, none of the patients in Minzenberg's BPD group had a co-morbid diagnosis of PTSD. The BPD patients demonstrated significantly elevated scores for both attachment anxiety and avoidance compared to a control group with no PD or past or present psychiatric condition. The most prevalent attachment style measured in the BPD group was fearful (50%), which was significantly more prevalent in the BPD group than the control group. It would appear that approximately 35% of BPD patients had a preoccupied attachment style, and 8% dismissing. Attachment styles for an 18 BPD participant subgroup with no co-morbid cluster C diagnoses found 6 with fearful attachment, 6 with preoccupied, 3 with dismissing, and 3 with secure. The interpretation of the results is not straightforward however; as whilst the study excluded patients with PTSD, it found that self reported child abuse and neglect among participants was significantly correlated to both attachment dimensions on the ECR. The study does not report whether this analysis was completed on data from all participants or the BPD group alone, and does not report the rates of childhood trauma measured within the BPD group and control group separately. This represents as weakness in the methodology of this study, as it is therefore not possible to consider the contribution that child trauma experiences make to the rating of insecure attachment styles

amongst individuals with BPD. It is therefore possible that insecure attachment in both groups was due to high rates of childhood trauma, rather than the insecure attachment in the BPD group being directly associated with BPD.

Aaronson et al (2006) also investigated attachment styles with a clinical group – comparing individuals with a DSM-IV diagnosis of BPD to those with Obsessive Compulsive Personality Disorder (OCPD). The study used the RAQ to measure attachment patterns and dimensions. BPD patients had significantly higher means for angry withdrawal and compulsive care seeking patterns, which the authors suggest is indicative of an anxious-ambivalent attachment style for the BPD group. For attachment dimensions, the BPD group had significantly higher scores for "lack of availability", "feared loss," "separation protest", and perhaps surprisingly, "lack of use of the figure," which is an attachment dimension more readily associated with avoidant attachment. A strength of this study is its choice of control group. By comparing attachment styles in individuals with BPD to those of individuals with another personality disorder, the study is able to demonstrate that aspects of attachment style may be specific to BPD, and not merely a general feature of the wider conceptualisation of personality disorder.

Levy et al (2005) administered the RQ, RSQ, and ECR to 91 patients diagnosed with BPD using IPDE interview. This use of more than one measure is a strength of this study, as it has the potential to offer results that are easier to generalise. On the RQ, 53.3% of participants had a fearful avoidant attachment style, 35% were preoccupied and 3% dismissing (the remaining were secure). Encouragingly, a similar pattern of attachment insecurity was found on the ECR, with the majority of BPD patients having the fearful avoidant attachment style

(47.2%), or preoccupied attachment style (46.1%), and 4.5% of individuals having dismissing attachment style . In this study a factor analysis was conducted for the ECR, as the authors explain that the ECR was originally derived on a non-clinical sample. A discriminant functional analysis was then conducted to predict participant's cluster-based attachment classifications. On this basis, 29.2% of patients had avoidant attachment, 25.8% were preoccupied, and 44.9% were fearfully preoccupied. The study does not report the outcomes of the RSQ. However on the basis of what is reported, fearful attachment style is most common in patients with BPD.

Critchfield et al (2008) used similar methodology to measure attachment styles in a clinical sample. Ninety-two patients with an IPDE diagnosis of BPD applying to take part in an RCT for BPD therapies were recruited and completed the ECR. The study reports that BPD patients had significantly elevated relationship anxiety and significantly more avoidance when compared to available norms for the ECR. Unfortunately, and perhaps due to the study's focus on other measurements such as aggression and suicidality, the attachment data is reported in limited detail. It is noted however that "the sample as a whole thus shows strong presence of anxious attachment with a tendency towards a fearful attachment style".

Two remaining self report studies with clinical groups used the ASQ. Fossati et al (2001, 2003) recruited patients from the same specialist personality disorder treatment centre. For the 2001 study, 44 patients with SCID-II diagnosed BPD, 98 patients with other cluster B disorders, 39 patients with cluster A or C disorders and 70 patients with no PD were included, in addition to a community control sample of 206 people. Only two significant differences are reported in ASQ scores – BPD patients had lower "confidence" scores (a scale that

appears to indicate attachment security) than non clinical participants and those with no PD. Secondly, BPD patients scored higher than non clinical participants on all ASQ insecure attachment scales. However the study is weak in failing to screen the non clinical participants, therefore it is difficult to be confident about the characteristics of the group to whom BPD individuals in this study were compared. In the 2003 study, SCID-II diagnosed BPD correlated negatively with ASQ "confidence" scores, appearing to support the findings of the 2001 study. BPD diagnosis also correlated positively with "need for approval" scores.

***Forensic Group***

One further self-report study found insecure attachment in a forensic sample. In their sample of adult male "batterers," Mauricio et al (2007) found that anxious attachment on the ECR and BPD characteristics were highly correlated (0.57, $p<.01$), and avoidant attachment was also correlated with BPD characteristics (0.28, $p<.01$). However it is of note that in this sample BPD and ASPD characteristics were found to be highly positively correlated (0.60, $p<.01$) and ASPD was also positively correlated with anxious and avoidant attachment dimensions. It is therefore difficult to conclude that BPD characteristics specifically are related to insecure attachment; rather it appears that PD in general is associated with insecure attachment styles, at least in this forensic sample.

Self report studies therefore appear to indicate high rates of fearful and preoccupied attachment styles among individuals with BPD, demonstrated across a range of different questionnaires. It is possible however that in some cases rates of fearful attachment were due to high rates of trauma within groups. Dismissing and avoidant attachment styles are also

reported for a significant proportion of participants. For dimensional measures, there is evidence from several studies that BPD is associated with anxious attachment, and to a lesser extent avoidant attachment.

## ATTACHMENT STYLES MEASURED BY NARRATIVE METHODS

All studies that used narrative measures (AAI and AAP) were undertaken with clinical participant groups. These studies all report that narrative assessments were undertaken by trained raters, who were blind to the diagnostic status of participants. They report generally high inter-rater agreement, ranging from 70% (Fonagy et al, 1996) to 100% (Bucheim et al, 2003). This is a significant strength of these studies, as the methodological rigour that they demonstrate makes their findings regarding specific attachment styles and BPD more compelling.

### *SECURE*

In accordance with the findings of the self report literature, evidence exists within the narrative studies for a small percentage of those with BPD having a secure attachment style. Two such studies were found. Barone et al (2003) found a small percentage (7%) of BPD patients on a waiting list for a specialist PD treatment hospital had secure attachment styles. Levy et al (2006) reported that 5% of their large BPD group (n = 90) had secure attachment styles on the AAI.

### *INSECURE*

Four studies were found that used narrative measures and found insecure attachment. Barone et al (2003) measured attachment style using the AAI in a group of 40 patients with SCID-II diagnosed BPD compared with a non-patient control group. Of the BPD group, 31 had co-morbid PD diagnoses, including Histrionic PD, Narcissistic PD, and ASPD. In the BPD group, 21% had insecure-dismissive attachment (same rate as control group), 22% had preoccupied style (10% in controls) and 50% of BPD individuals were classified unresolved (7% of controls). It is of note that the control group in this study were not reported to have been screened for the presence of mental health difficulties; therefore undetected difficulties in this group may account for similar rates of dismissing and preoccupied attachment styles as BPD participants. This weakens the contribution this study can make to understanding the specific association of attachment styles with BPD. Also, the AAI interviewers in this study had not been trained to use the "Cannot classify" category, therefore this classification, which would appear from Riggs et al's 2007 study to be highly relevant to individuals with BPD, is not explored.

Fonagy et al (1996) measured AAI attachment styles in a group of 36 inpatients with BPD. 75% of those with BPD had preoccupied attachment styles, with 47% fitting the subcategory of "fearful preoccupation with traumatic events". 89% of individuals also met criteria for unresolved classification with respect to loss or trauma. This was at a higher rate than other clinical groups in the study – 65% for individuals without a BPD diagnosis. The "Cannot Classify" category was not available at the time of this study; however the authors note in retrospect that 10% of patients could have fitted this category.

Levy et al (2006) used the AAI with a clinical group to report attachment styles as an outcome measure for the effectiveness of psychotherapy trials for 90 adults with IPDE diagnosed BPD. Before commencing trials, attachment styles were 15% preoccupied, 28.3% dismissing, 33.3% unresolved and 18.3% cannot classify. When a three way classification was made using secondary classifications the distribution was 48.3% preoccupied and 46.7% dismissing. A significant pattern was detected during re-classification in that those with secondary dismissing attachment style tended to have cannot classify as their original classification, whereas individuals with a secondary preoccupied style were originally in the unresolved group. The study does not report post trial attachment style data, however it does note that there were no significant changes in insecure attachment style classifications between Time 1 and Time 2. Attachment styles reported in this study were for completers of the clinical trials only, which is a weakness of the study. Therefore the study may have yielded different findings regarding rates of attachment insecurity if data from non-completers had not been excluded from report by the authors.

Buchheim and colleagues (2008) also report high rates of unresolved attachment for individuals with BPD, however using the Adult Attachment Projective (AAP). In a group of 11 female inpatients with SCID-II and IPDE diagnosed BPD, all were unresolved. This was significantly more likely to be in relation to sexual abuse and loss through death of a significant person, than for a control group of healthy individuals who also had high rates of unresolved attachment (41%). The study notes that correspondence between AAI and AAP unresolved classifications has been found to be highly significant ($\kappa=0.70$), suggesting that the results of this study support the AAI studies in which high rates of unresolved attachment in BPD individuals is reported.

In summary, the narratives studies indicate that trauma experiences have a significant impact on attachment style in BPD, with significant proportions of participants being classified as unresolved across studies. Preoccupied, dismissing and "cannot classify" classifications are also evident in those with BPD, however findings regarding the rates of these are inconsistent across narratives studies. These findings bear some similarities to the data from the self report studies, which also measured high rates of preoccupied and dismissing, anxious and avoidant attachment styles. The high rate of fearful attachment identified in self report studies is more difficult to compare, as this category may reflect aspects of unresolved attachment but also may address the high levels of disorganisation and contradiction evident in the "cannot classify" group.

## DISCUSSION

From the available data, it is clear that no single specific attachment style is associated with BPD, but rather a range of attachment styles are prevalent in the BPD population. Among university students self report measures indicate that anxious, ambivalent or avoidant attachment styles may be significantly associated with BPD features. Due to problems with the measurement and reporting of BPD features in these studies, it is unclear how well these results generalise to individuals diagnosed with BPD. However, self report studies with clinical and forensic groups indicate similar findings to the non-clinical studies. These suggest that in their internal working models of self and other, individuals with a BPD diagnosis or those with BPD traits hold negative representations of self, other or both, and fear separation and/or intimacy and dependence on others. Furthermore, the studies with clinical groups support the findings of Agrawal et (2004), demonstrating that fearful and

preoccupied attachment styles are most predominately associated with a diagnosis of BPD, and differentiate individuals with BPD from those with depression, and other mental health problems. Preoccupied attachment style continues to differentiate BPD from other psychiatric disorders when controlling for co-morbid PTSD and other PD diagnoses. This is important, as traumatic experiences, in particular those experienced in childhood, have the potential to account for a degree of the insecure attachment styles in the BPD population. Preoccupied attachment style indicates that individuals with BPD have high anxiety regarding relationships and low avoidance (Mikulincer & Shaver, 2007). Fearful attachment style represents negative views of self and other held by an individual, and is reflective of a high level of distress and fear.

The studies employing narrative measures consistently indicate that unresolved attachment style is associated with BPD diagnosis. Large percentages of individuals with BPD are also demonstrated to have preoccupied attachment styles (15-75% across studies) and also dismissing attachment styles (28.3 – 46.7% across studies). Two studies found that individuals with BPD could not be classified with any specific attachment style, and hence were assigned the "cannot classify" category. There is extremely limited empirical testing of this fifth category on the AAI; however it may represent significant attachment disturbance in high risk populations, such that contradictory attachments styles are employed by the individual with BPD (Patrick et al, 1994; Fonagy et al, 1996). Whilst both narrative and self report measures indicate the presence of secure attachment styles among individuals with BPD, in the context of evidence provided it can be concluded that these individuals are exceptional in the wider population of those with BPD.

### *Limitations*

There are many limitations to the literature on attachment and BPD. The evidence base could be improved if future research employed the most commonly used validated measures (the ECR and AAI). Several studies were excluded from this review as they utilised non-validated attachment measures - this represents data which is difficult to interpret and could not be integrated with the wider research findings. Given the high proportions of those with BPD who have unresolved attachment styles it is also important that future studies measure the extent to which those with BPD have experienced trauma, particularly in childhood when attachment styles are still in development. This should be balanced with containing the measurement of possible confounding factors – which are numerous, especially given the complex nature of BPD. Care must be taken not to over-control studies resulting in the recruitment of unrepresentative participant groups that may give false impressions of attachment styles. Further research into the "Cannot classify" category of the AAI is also still required, as at present the meaning of this classification remains speculative.

### *Clinical Applications*

This review has important clinical applications. Increased funding for psychological therapies that address insecure attachment styles in individuals with BPD is essential. The finding that BPD represents a range of attachment styles is very significant, acting as a reminder that whilst therapeutic interventions must contain common elements, therapies will require to be individually tailored, as one approach will certainly not suit all. Training mental health professionals to formulate BPD as a disorder associated with insecure attachment styles may also be valuable, as will raising awareness of the pervasive impact of trauma experienced by those with BPD. This knowledge may empower staff to hold empathy and insight regarding

the experiences of those with BPD, and help individuals with BPD better understand the developmental roots of their own diagnosis.

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***TABLE 1: Summary of studies included for review***

| STUDY | PARTICIPANTS | MEASURES USED FOR GROUP ALLOCATION | | EXCLUSION CRITERIA | ATTACHMENT MEASURE | ATTACHMENT STYLE(S) MEASURED | OTHER MEASURES | QUALITY RATING |
|---|---|---|---|---|---|---|---|---|
| | | CASES (BPD group) | CONTROLS | | | | | |
| Critchfield et al (2008) | 92 individuals with BPD applying to take part in an RCT for psychotherapies for BPD aged 18-50 | IPDE using DSM-IV criteria | No control group | Current untreated MD substance dependence, MR, past or present history of schizophrenia, schizoaffective disorder, BID | ECR – adult romantic attachment | Anxious attachment with tendency towards a fearful attachment style | Personality features, aggression and moral values, aggressive & hostile behaviours, irritability, self injury | B |
| Minzenberg et al (2006) | BPD group – 40 out patients<br><br>Controls – community recruitment number not reported<br><br>Aged 18-60 | SCID-II following screening | SCID-II screening questionnaire | BPD Group – schizophrenia, current MDD, PTSD, substance dependence, history of neurological disease. Controls – any past or present psychiatric diagnosis or treatment | ECR | Attachment anxiety & avoidance, fearful attachment style | Childhood Trauma, depression, anxiety, hostility, impulsivity, interpersonal problems | B |
| Levy et al (2005) | 91 outpatients with BPD aged between 18-45 enrolled in RCT for BPD patients | IPDE using DSM-IV criteria | No control group | Schizophrenia, bipolar disorder, delusional disorder, organic pathology, MR | RQ - Peers<br><br>RSQ - Peers<br><br>ECR | Fearful avoidant, preoccupied, dismissing avoidant, secure, avoidant, fearfully preoccupied | None | B |

| STUDY | PARTICIPANTS | MEASURES USED FOR GROUP ALLOCATION | | EXCLUSION CRITERIA | ATTACHMENT MEASURE | ATTACHMENT STYLE(S) MEASURED | OTHER MEASURES | QUALITY RATING |
|---|---|---|---|---|---|---|---|---|
| | | CASES (BPD group) | CONTROLS | | | | | |
| Aaronson et al (2006) | 50 patients with BPD; 40 with OCPD from a longitudinal PD study, age 21-50 | DIPD-IV | DIPD-IV | Organic disorder, MR, active psychosis, history of schizophrenia, substance use or withdrawal. | RAQ - unspecified | Anxious-ambivalent | None | B |
| Scott et al (2009) | 1, 401 undergraduate psychology students | MSI-BPD & IPDE-SQ | MSI-BPD & IPDE-SQ | None | ECR-R | Attachment anxiety | Negative affect and impulsivity | B |
| Choi-Kain et al (2009) | 109 BPD patients, 44 depressed, 64 non borderline controls | DIB-R, DIPD-IV, SCID-I | DIB-R, DIPD-IV, SCID-I | Lifetime psychotic illness, neurological impairment (controls – 4 or more symptoms of BPD or MDD), individuals without 2 "1st degree" relatives. | RQ | Preoccupied, fearful | None | A |
| Meyer et al (2004) | 176 undergraduate psychology students aged 18-38 | SCID-II-SQ | N/A | None | ECR | Anxious attachment | Face rating | B |
| Mauricio et al (2007) | 192 "male batterers" | PDQ-R | N/A | None | ECR | Anxious attachment, avoidant attachment | Reading level, intimate partner physical & psychological violence, social desirability. | B |

| STUDY | PARTICIPANTS | MEASURES USED FOR GROUP ALLOCATION | | EXCLUSION CRITERIA | ATTACHMENT MEASURE | ATTACHMENT STYLE(S) MEASURED | OTHER MEASURES | QUALITY RATING |
|---|---|---|---|---|---|---|---|---|
| | | CASES (BPD group) | CONTROLS | | | | | |
| Nickell et al (2002) | 197 university students with BPD features; 224 students without BPD features | PAI-BOR screening, PDQ-R, SIDP-IV, DIB-R | PAI-BOR screening, PDQ-R, SIDP-IV, DIB-R | None | TCM-R – current attachment styles | Secure, anxious, ambivalent | Axis I disorders, childhood adversity, PD features, parental bonding | B |
| Fossati et al (2001) | Patients from specialist PD Unit – 44 BPD, 98 cluster B non BPD, 39 cluster A or C, 70 no PD<br><br>Controls- 206 community members | SCID-II | None | IQ<75, schizophrenia, schizoaffective disorder, schizophreniform disorder, delusional disorder, organic disorder or dementia | ASQ – unspecified | "confidence" | Temperament and character, parental bonding. | B |
| Fossati et al (2003) | 487 patients from a specialist PD Unit (61 with BPD) | SCID-II | N/A | IQ<75, schizophrenia, schizoaffective disorder, schizophreniform disorder, delusional disorder, organic disorder,dementia, education level lower than elementary school | ASQ | "confidence", "need for approval". | Axis I disorders | B |

| STUDY | PARTICIPANTS | MEASURES USED FOR GROUP ALLOCATION | | EXCLUSION CRITERIA | ATTACHMENT MEASURE | ATTACHMENT STYLE(S) MEASURED | OTHER MEASURES | QUALITY RATING |
|---|---|---|---|---|---|---|---|---|
| | | CASES (BPD group) | CONTROLS | | | | | |
| Riggs et al (2007) | 80 inpatients in a trauma treatment program aged 18-66 (21.3% BPD) | MCMI-III, DDIS, clinician diagnosis | N/A | Psychosis, unable to speak fluent English, not approved to take part by clinician | AAI – childhood attachment figures<br><br>ECR | Secure, dismissing, preoccupied, fearful, unresolved, cannot classify | Dissociation, background information | B |
| Barone et al (2003) | 40 patients with BPD on the waiting list of a specialist PD hospital. 40 controls (students and "adults active in the community") | SCID-II | None | Not reported | AAI | Free-autonomous, insecure-dismissive, insecure-preoccupied, unresolved. | Axis I disorders (SCID), GAF | B |
| Fonagy et al (1996) | 82 non-psychotic inpatients in specialist PD hospital (36 with BPD)<br><br>8 controls matched on age, gender, SES, IQ | SCID-II<br><br>DIB | GHQ | Controls excluded if met criteria for caseness on the GHQ | AAI | Preoccupied, unresolved | Axis I disorders, reflective function | B |
| Buchheim et al (2008) | 11 female BPD inpatients, 17 matched healthy controls | SCID-II, IPDE | | Neurological illness, psychotic disorders, bipolar disorder, PTSD, dissociative disorder, left handed, "language problems", CDE, drug/alcohol abuse. | AAP – includes items relevant to childhood & adulthood attachment scenarios | Resolved, unresolved | Axis I disorders, dissociation, impulsivity, neuro imaging | B |

| STUDY | PARTICIPANTS | MEASURES USED FOR GROUP ALLOCATION | | EXCLUSION CRITERIA | ATTACHMENT MEASURE | ATTACHMENT STYLE(S) MEASURED | OTHER MEASURES | QUALITY RATING |
|---|---|---|---|---|---|---|---|---|
| | | CASES (BPD group) | CONTROLS | | | | | |
| Levy et al (2006) | 90 patients with BPD enrolled in an RCT of Transference-Focused Psychotherapy age 18-50 years | IPDE | N/A | <5 BPD criteria, schizophrenia, schizoaffective disorder, bipolar disorder, delusional disorder, delirium, dementia | AAI | Secure, preoccupied, dismissing, unresolved, cannot classify | Axis I disorders, reflective function | B |

BPD = Borderline Personality Disorder, SCID –II = Structured Clinical Interview for DSM-IV Axis II Disorders, IPDE = International Personality Disorder Examination, IPDE-SQ = International Personality Disorder Inventory Screening Version, DIB = Diagnostic Interview for Borderlines, DIB-R = Diagnostic Interview for Borderlines Revised, MCMI-III = Millon Clinical Multiaxial Inventory III, DDIS = Dissociative Disorders Interview Schedule, PAI-BOR = Personality Assessment Inventory-Borderline Features, PDQ-R = Personality Diagnostic Questionnaire-Revised, SIDP-IV = Structured Interview for DSM-IV Personality, DIPD-IV = Diagnostic Interview for DSM-IV Personality Disorders, MSI – BPD = McLean Screening Instrument-Borderline Personality Disorder, SCID-I = Structured Clinical Interview for DSM-IV Axis I Disorders, MR = "Mental Retardation", MD = Major Depression, MDD = Major Depressive Disorder, CDE = Current Depressive Episode, PTSD = Post Traumatic Stress Disorder, AAI = Adult Attachment Interview, AAP – Adult Attachment Projective, ECR = Experiences in Close Relationships Scale, ASQ = Attachment Style Questionnaire, TCM – R = Three Category Measure-Revised, RQ = Relationships Questionnaire, RAQ = Reciprocal Attachment Questionnaire, RSQ= Relationships Style Questionnaire.

Running Title: Unstable Sense of Self in BPD

# Chapter 2

# Unstable Sense of Self in Borderline Personality Disorder: A Problem of Role Absorption and Lack of Integration?

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## ABSTRACT

Recent research concerning Borderline Personality Disorder (BPD) has focused on the role of identity disturbance and unstable sense of self in maintaining difficulties for individuals with this diagnosis. This research proposes that unstable sense of self may be underpinned by a lack of self integration, and that as a result, people with BPD may rely heavily on the views of others' to inform their sense of self (role absorption), making them vulnerable in relationships and presenting barriers to recovery. The present study utilised a mixed design and questionnaire methodology to investigate sense of self and discrepancies between self and anticipated other perspectives. Participants were 10 females with BPD, 10 females with anxiety and depression and 10 females with no history of mental health difficulties. Participants completed the Who Are You? questionnaire, in addition to the Wechsler Test of Adult Reading, Beck Depression Inventory and Beck Anxiety Inventory. Participants in clinical groups completed the SCID-II interview for Borderline Personality Disorder and the SCID-I Mood Episodes and Anxiety Disorders modules. Results indicate that for females with BPD, sense of self is significantly more negative in content when compared with females with anxiety and depression and those with no history of mental health difficulties. Females with BPD have significantly larger discrepancies between their sense of their appearance and their sense of how their appearance is viewed by significant others, in comparison to other participants with anxiety and depression, and those with no history of mental health difficulties. There is some evidence that females with BPD have significantly less integrated sense of self in comparison to participants with anxiety and depression, and participants with no history of mental health problems. Results do not support a role absorption hypothesis as underpinning unstable sense of self in BPD, which may have implications for current psychological conceptualisations of BPD.

Individuals diagnosed with Borderline Personality Disorder (BPD) frequently present to mental health services seeking help for long standing, complex needs. One of the difficulties experienced by individuals with BPD relates to identity and sense of self. Therapists describing their experiences of treating individuals with BPD comment that some of the most striking aspects of their presentation include "constantly shifting self states," resulting in the therapist frequently becoming the keeper of the patient's self (Bender & Skodol, 2007). Patients with BPD describe overwhelming feelings of emptiness, or as Jorgensen (2006) reports, the feeling that "I am nothing at all". The DSM-IV BPD criteria states that "Identity disturbance: markedly and persistently unstable self image or sense of self" is one of nine key criteria of which five are required to diagnose BPD. Similarly, the ICD-10 criteria for Emotionally Unstable Personality Disorder (2007), of which "Borderline type" is a subtype, states that the disorder is characterised by "disturbances in self-image, aims and internal preferences".

Unfortunately, despite this recognition of the importance of self and identity in BPD, definitions of these concepts are not universally agreed upon within the literature, or clinically (Marcia, 2006; Jorgensen, 2009, 2006; Wilkinson-Ryan & Westen, 2000; Westen & Heim, 2003). Perhaps as a result of the difficulties encountered defining this important diagnostic criterion, research in the area of identity, self and BPD has increased in recent years. Researchers from different theoretical backgrounds have endeavoured to conceptualise what is meant by "identity disturbance" and "unstable sense of self"; investigating their role in the development of BPD, and proposing that there will be value to patients if these difficulties can be understood and addressed directly in therapeutic interventions. The current study will seek to add to this research by outlining and

implementing the use of questionnaire methodology focused on measuring aspects of the self in individuals diagnosed with BPD.

## DEFINING SELF AND IDENTITY

There is no doubt that sense of self can be regarded as somewhat of a "slippery" concept. Westen and Heim (2003) provide a helpful definition of self which offers a good conceptual starting point:

> "Logically, the only coherent (if psychologically unsatisfying) use of the term is the colloquial definition of self as *the person* – body, mental contents, attributes and the like. This is what we mean when we say... 'She has a negative view of her*self*'". (Westen & Heim, 2003, p644).

More specifically, Marcia (2006) has described the development of self and identity in individuals diagnosed with personality disorders, with special focus on BPD. He conceptualises identity with reference to Erikson's (1963) approach, outlining a psychodynamic framework of personality structure development, in which identity is fourth in the developmental series, preceded by ego, self and superego. The development of the self is the second stage in this ongoing process, and it is at this stage that relationships are paramount. The self begins to form based on information acquired from the individual's experiences of self-other interactions. Representations of these interactions become internalised as the attachment system develops (Marcia 2006). This conceptualisation of the self would appear highly relevant to individuals with BPD, whose significant difficulties

within relationships have been conceptualised in terms of insecure attachment (Linehan, 1993, Agrawal et al, 2004, Levy, 2005).

The development of identity is argued to occur much later in adolescence, is externally oriented, and is related to contemporary culture, society and ideals (Jorgensen, 2006). Therefore, in contrast to the DSM-IV criteria, which use "identity" and "self" interchangeably, Marcia argues that these concepts are related but distinct, and do not have equivalent roles in the development of personality disorder. It is subsequently argued that for adults with BPD, a secure sense of self is a prerequisite for the development of a coherent identity, with "identity disturbance" the surface level of a problem that has much earlier developmental roots (Marcia, 2006; Bradley & Westen, 2005) Given this central role of self, the present study utilises a questionnaire containing scales that represent aspects of how individuals see themselves, sometimes in relation to others. It is expected that in order to complete this individuals will be required to refer to internalised representations of relationships, thus accessing the basis for sense of self, as defined by Marcia (2006).

## PROBLEMS WITH SELF IN BPD: SPLITTING AND LACK OF INTEGRATION

Unstable sense of self is specifically noted to involve the failure of individuals to develop sophisticated alternatives to immature defence mechanisms (Jorgensen, 2006). There are many factors in the lives of BPD patients that may have contributed to this failure, such as early experiences of trauma, attachment difficulties (Agrawal et al 2004, Levy, 2005), invalidating social environments (Linehan 1993), or their inability to "mentalise" (Bateman & Fonagy, 2004). Particular attention is paid to the use of splitting as a defense mechanism (Kernberg 1984): the inability to integrate positive and negative representations of the self

(and of others), which of course offers a limited protective function. However, splitting allows individuals with BPD to maintain extreme inconsistencies in views of self and others, so that an integrated and stable sense of self is inhibited from developing. Sense of self therefore constantly shifts between extremes (eg. "I am a victim" and "I am a vicitimiser") and a feeling of inner emptiness persists (Kernberg, 1984; Wilkinson-Ryan & Westen; 2000).

Splitting of past, present and future representations also occurs for those with BPD, meaning that individuals are highly vulnerable to their current affective state informing their sense of self at any given time, thus creating further instability and intensifying difficulties with emotional regulation (Bradley & Westen, 2005; Fuch, 2007). Livesley (2006) describes this failure to integrate representations of self and others as a failure of one of three major life tasks that underlie all personality disorders. The role of splitting in maintaining unstable sense of self in BPD is therefore highly significant, and its occurrence makes it very difficult for individuals to understand external and internal experiences (Clarkin et al 2007). It is possible that one way in which this fragmented sense of self may be reflected in individuals with BPD is that they may be more likely to endorse items relating to themselves with more extreme ratings on a questionnaire, when compared with individuals with no personality disorder. The present study will seek to explore this hypothesis and consider whether it is feasible to measure fragmentation of self using these methods.

## UNSTABLE SENSE OF SELF AND INTERPERSONAL PROBLEMS

Lack of integrated self is proposed to be one of the reasons people with BPD consistently struggle to problem solve and establish reciprocating relationships or "interpersonal relatedness" (DiMaggio et al 2006; Blatt & Luyten, 2009). One can begin to understand that

an inability to integrate information about self from interactions with others has the potential to be a huge source of vulnerability for people with BPD. Their position in interactions with others is weakened, whereas others may hold a powerful role in determining the view of self held by the person with BPD at any one moment. For example, as one individual with BPD observes, "Ideas of who I am and what I want to do fluctuate from week to week. My perspectives, thoughts and decisions are easily undermined by what other people think or say and I often put on different voices to fit in" (Personal Account C, Borderline Personality Disorder: Treatment and Management, 2009, p69). In this respect the degree of ownership individuals with BPD have in creating their sense of self appears to be compromised.

In connection with this potentially compromised ownership of sense of self, role absorption has been identified as being an important factor in BPD (Wilkinson-Ryan & Westen, 2000). Role absorption refers to the tendency of individuals diagnosed with BPD to define self in terms of a specific role, cause, group or label. Jorgensen (2009) also refers to this means of defining self with reference to Berzonsky's (1989) "normative identity style," in which individuals cope with identity problems by referring to the expectations of a group or significant other. The present study predicts that individuals with BPD also attempt to define themselves in terms of the view they believe a significant other holds of them. They will therefore be more influenced by the views of others when constructing their sense of self, than individuals who do not have a personality disorder diagnosis. For this reason, individuals are asked to complete the questionnaire used in this study twice, once from their own perspective and then from what they believe to be the perspective of a significant other. It is expected that individuals with BPD will show less discrepancy in these ratings than individuals with no personality disorder. Two age and IQ matched control groups are included in the study in order investigate whether these problems with sense of self discussed

may be specific to BPD – a clinical control group of individuals with anxiety and mood disorders, and a non clinical group of individuals with no history of psychological difficulties.

## RESEARCH QUESTIONS, AIMS AND HYPOTHESES

The study aims to address the following research questions:

1. How do individuals with BPD rate their sense of self in comparison to individuals with anxiety and mood disorders and non clinical controls?
2. Do individuals with BPD have less discrepancy between their sense of self and their sense of how others see them when compared to individuals with anxiety and mood disorders and a non clinical group?
3. Are individuals with BPD more likely to hold extreme, less integrated views of self, endorsing items relating to sense of self with extreme ratings in comparison to individuals with anxiety disorders and mood disorders and a group of non clinical controls?

The following hypotheses will be investigated:

1. Individuals with BPD will be more likely to construct sense of self from representations of others' views, than individuals with anxiety and mood disorders and non clinical controls. It is therefore predicted that individuals with BPD will have less discrepancy between their ratings of self and their ratings of how others see them on a questionnaire about self, when compared to participants in the anxiety and mood disorders and non clinical control groups.

2. Individuals with BPD will possess a less integrated sense of self than individuals with anxiety disorders and mood disorders, and those in a non clinical control group. It is therefore predicted that individuals with BPD will be more likely to endorse items relating to the self with extreme ratings on the questionnaire when compared to the participants in other groups.

## METHODS

### SAMPLE SIZE

Sample size was calculated based on a previous study which compared two groups of 15 females with BPD and 15 females with Depressive Disorder on scales of the Who Are You? Questionnaire (Espie et al 2009). Based on the means and standard deviations reported for each group on questionnaire scales in the study, the following effect sizes were obtained: Personality Positive (r = 0.04), Personality Negative (r = 0.40), Appearance Positive (r = 0.21), Appearance Negative (r = 0.26), Antisocial (r = 0.50), Agency (r = 0.13), and Political Views (r = 0.03). As some large effect sizes were achieved, for the present study to obtain a large (0.40) effect size (f), and power of 0.8 (β – 1), it was calculated that a sample size of 13 participants per group was required (39 participants in total) (Faul et al, 2007). Limitations relating to sample size and power in the present study are addressed in the discussion.

### PARTICIPANTS

Participants in the present study were patients receiving support from adult mental health services. Non clinical controls were also recruited. There were three groups of participants: females with BPD, females with an anxiety or depressive disorder (AD group), and females who were not receiving any mental health services (non clinical control group). Inclusion

criteria for the patient groups were DSM-IV diagnoses of BPD, a probable or major depressive disorder, or diagnosis of an anxiety disorder. Exclusion criteria were diagnoses of bipolar affective disorder or active psychosis. Non clinical participants were included if they had no self reported history of mental health difficulties and were not currently accessing mental health services. All participants had to be over 18 years of age and have the ability to provide informed consent.

Patient participants were recruited by advertising the study among clinicians and managers of community mental health teams, adult psychological services, psychotherapy services, specialist services (adult addictions services and eating disorders) and primary care services. Relevant clinicians were invited to review their caseloads to identify individuals who were eligible to participate in the study, and had the option of discussing the study with their patients or sending them an information pack about the study. Patients interested in participating contacted the researcher directly via telephone, email or letter, in order to arrange an appointment or request further information. Some participants requested their clinician pass their details to the researcher and these individuals were telephoned by the researcher. Research sessions were at health centre locations. Participants were offered travel expenses of up to £3.00. Due to the "opt-in" nature of recruitment, non-respondent data is not available, as participants' personal details were only received once they had consented to participate. Two individuals were not accepted into the study as they contacted the researcher after the recruitment deadline. The non clinical control group were non clinical NHS employees and were recruited via email advertisement. Individuals who wished to participate contacted the researcher directly, with the study being undertaken during working hours.

10 females were recruited for each group, a total of 30 participants. In the BPD group, 8

participants met diagnostic criteria for BPD; two individuals met 4 of the 5 required criteria and met sub threshold for a fifth criterion. Six of the BPD group met diagnostic criteria for identity disturbance. Comorbidity was high within the group, with participants meeting criteria for an average of 2.6 additional disorders including Panic Disorder, Panic Disorder with Agoraphobia, Social Phobia, Post Traumatic Stress Disorder (PTSD), Specific Phobia, Obsessive Compulsive Disorder, Generalised Anxiety Disorder, Recurrent Major Depressive Disorder and Single Episode Major Depressive Disorder. One participant in the BPD group also self reported a longstanding diagnosis of Anorexia, and another Bulimia. In the anxiety and depressive disorder (AD) group, 3 individuals met criteria for mood disorder, 5 for at least one anxiety disorder, and 2 individuals met criteria for anxiety and mood disorders. Diagnoses included Single Episode Major Depressive Disorder, Recurrent Major Depressive Disorder, Panic Disorder, Panic Disorder with Agoraphobia, Agoraphobia without history of Panic Disorder, Obsessive Compulsive Disorder, and Generalised Anxiety Disorder. The average comorbidity rate was 1.4. No participants in the AD group met more than two criteria for BPD, or met criteria for Identity Disturbance.

## MEASURES

### *Beck Depression Inventory (BDI-II)*

The Beck Depression Inventory II (1996) is a 21 item self report questionnaire measuring severity of depression. It is one of the most widely used measures for mood disorders and has been validated extensively (Fernandez-Ballesteros, 2003). It is used to measure levels of depression for all participants, and as a screening tool for the non clinical control group.

### *Beck Anxiety Inventory (BAI)*

The Beck Anxiety Inventory (1988) is a 21 item self report questionnaire measuring severity of anxiety for somatic and subjective anxiety symptoms. It has high internal consistency ($\alpha$ = 0.92) and test-retest reliability ($\alpha$ = 0.75 for a one week interval). (Fernandez – Ballesteros 2003). It is used in the study to compare levels of anxiety between groups, and also as a screening tool for the non clinical control group.

*Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) (1997)*

The SCID-II is a semi-structured interview designed to provide assessment of Axis II disorders. Various studies have examined reliability of the SCID-II, finding that it has good inter-rater reliability (median kappa = .94) and modest test-retest reliability (median kappa = 0.62) (Rogers 2001). Studies examining the validity of the SCID-II are more varied, with some studies finding modest construct validity for the SCID-II (median kappa = .25; median r = .27). The SCID-II was used to inform diagnosis of BPD for patient participants in the study.

*Structured Clinical Interview for DSM-IV Axis I Disorders -Research Version (SCID-I-RV)*

The SCID-I-RV is a semi structured interview that provides assessment of Axis I disorders. It offers more refined clinical ratings than the clinical version of the SCID-I, and has been shown to have good reliability (Rogers & Wupperman, 2007). For the purposes of the study the Mood Episodes and Anxiety Disorders modules of the interview were used.

*Wechsler Test of Adult Reading (WTAR)*

The Wechsler Test of Adult Reading (2001) provides an estimate of intellectual functioning prior to the onset of illness or injury and is a moderate indicator of education level. The

assessment has been validated for use, having high internal consistency (coefficients range from 0.87 to 0.95) in UK samples (Strauss et al, 2006). It is used in the study to match groups for verbal IQ, giving an indication of participants' ability to cope with the cognitive demand of completing questionnaires.

*Who Are You? Questionnaire*

The Who Are You? Questionnaire (Obonsawin, Davidson & Carlisle; presented at BIGSPD 2007) was designed to investigate sense of self and identity disturbance in BPD and has been piloted in two previous unpublished studies. It contains 16 scales measuring the following concepts: Agency, Occupation, Political Views, Social Roles, Appearance Positive, Appearance Negative, Prosocial, Antisocial, Integration, Dissociation, Personality Positive, Personality Negative, Weak Attributes, Strong Attributes, Distress, and Comfort and Pleasure. In this study it is used to answer three questions about self. Firstly, sense of self is measured by ratings of 1-5 on a Likert scale indicating the extent to which descriptive words relating to the self are relevant to participants – rated either “Not like me,” or “Like me”. Secondly, the words are rated again by participants, from the anticipated perspective of a significant other. The difference between self rating and other perspective rating is calculated as a measure of self agency and role absorption (the extent to which individuals form their sense of self based on representations of others views). Thirdly, extremity of ratings on questionnaire items is used as a measure of integrated or fragmented sense of self. (See Appendix D for questionnaire).

RESEARCH PROCEDURES

Patient participants attended research sessions in which the SCID-II and SCID-I RV were

completed in order to assign patients to either the BPD or AD group. The researcher was blind to patients' clinical information. Semi-structured interviews were not completed with non clinical controls (NCC group). All participants completed BDI, BAI, WTAR and Who Are You? measures. Research sessions lasted approximately 2.5 hours, with some participants requiring two appointments due to variations in completion times. A sample of written transcripts from the SCID interviews was reviewed by a second expert rater (KD), blind to the author's diagnosis for each participant.

## ETHICS

Ethical approval for the study was obtained from the NHS West of Scotland Research Ethics Committee. Written informed consent was provided by all participants.

## STATISTICAL ANALYSES

3x2 mixed design Analysis of Variance (ANOVA) was used to answer research questions, when Kolomogorov–Smirnov and Levene tests indicated that assumptions of normality and homogeneity of variance for parametric tests had been met. If assumptions were violated for any questionnaire scales, non parametric equivalent tests were used. When non-parametric equivalents were not available, attempts were made to transform the data using square root, logarithm and 10 logarithm, in order to meet parametric assumptions. (This was required for only three scales on the questionnaire, Dissociation, Political Views, and Occupation). When transformation attempts were not successful, parametric analyses were conducted due to their robustness, and results interpreted with caution. Significant differences between groups were investigated using planned contrasts, Tukey post hoc comparisons, and follow up one way ANOVAs. Planned contrasts offer comparisons between different groups without inflating the

Type I error rate (Field, 2005). If planned contrasts had not been used and a more ad hoc approach was used to look at differences, the Bonferroni correction method would have been selected. However planned contrasts seemed more appropriate given that the comparisons made were identified prior to data analyses, in the hypotheses and predictions.

## RESULTS

### GROUP CHARACTERISTICS

The main characteristics of the study participants are detailed in Table 1. Group comparisons suggest that there were no significant differences between the groups for age ($F(2, 27) = 1.84$, $p = 0.18$) or for verbal IQ ($F(2, 26) = 1.26$, $p = 0.30$) using one way Analysis of Variance (ANOVA). One participant in the BPD group was not administered the WTAR as she disclosed during the session that she was currently learning to read. It was therefore not possible to obtain a measure of her verbal IQ. In the case of this participant, the researcher read aloud parts of the questionnaire in order to ensure the participant's comprehension of items. There were significant differences between groups for self reported depression, $F(2, 27) = 13.07$, $p = 0.00$, $\omega = 0.67$, and self reported anxiety, $F(2, 27) = 3.72$, $p = 0.04$, $\omega = 0.37$, on the BDI and BAI. Tukey post hoc comparisons indicate that the BPD group ($M = 41.5$, 95% CI [35.7, 47.3]) had higher self reported depression than individuals in the AD group ($M = 22.1$, 95% CI [10.7, 33.5]), $p = 0.01$) and individuals in the NCC group ($M = 13.7$, 95% CI [5.0, 22.4]), $p = 0.00$). No difference in self reported depression was found between the AD and NCC groups, and this remained the case even when two outliers were removed from the NCC group ($M = 8.75$, 95% CI [2.9, 14.6]), $p = 0.08$. With regards to self reported anxiety, there was no significant difference between the BPD ($M = 27.6$, 95% CI [17.2, 37.9]) and AD group ($M = 19.2$, 95% CI [9.8, 28.6]), $p = 0.34$, however the BPD group had

significantly higher anxiety ratings than the NCC group (M = 11.7, 95% CI [3.64, 19.6]), p = 0.03. There was no significant difference between the AD and NCC groups for self reported anxiety, p = 0.42, and this difference remained non significant when two outliers in the NCC group were removed, (M = 7.00, 95% CI [2.4, 11.6]), p= 0.17. Clinical cut-off scores for the BDI and BAI indicate that individuals within the BPD group have self reported depression within the severe range (30 -63), and self reported anxiety within the severe range (26 – 63). The mean self reported depression score for the AD group is within the moderate- severe range (19-29), and self reported anxiety within the moderate range (16-25). The NCC group scored within the mild-moderate range on the BDI (10-18), and the mild range of the BAI (8-15). It is of note that in the NCC group two outliers scored within the severe range on the BDI and BAI.

INSERT TABLE 1 HERE

WHO ARE YOU? RELIABILITY ANALYSIS

A reliability analysis was conducted using SPSS on each scale of the questionnaire. All scales of the questionnaire had good reliability, with Cronbach's alpha ranging from $\alpha = 0.7$ to $\alpha = 0.9$. The only exception was the Social Roles scale ($\alpha = 0.6$). Frequency analysis of the scales demonstrated that three scales appeared to have achieved high reliability because the majority of participants most frequently responded that items on these scales were "not like me". This suggests that on these scales, Agency, Occupation and Political Views, consistency of responses may have been due to the scales being less relevant to the majority of participants. On the other scales it is likely that the high reliability scores may reflect that the questionnaire scales were measuring consistent constructs (Table5. Frequency analysis is provided in Appendix E).

*Group Differences in Sense of Self and Other Ratings on Who Are You? Questionnaire*

Table 3 indicates significant main effects of group for sense of self and other ratings on the following scales: Social Roles, Integration, Dissociation, Antisocial, Strong Attributes, Personality Negative, Distress and Comfort and Pleasure. Follow up one way ANOVAs demonstrated significant differences between sense of self ratings on these scales. Planned contrasts indicate that those in the BPD group endorsed less social roles as being "like me" than those in the AD and NCC groups, $t(27) = 4.10$, $p = 0.00$, $r = 0.58$. On the Integration scale, the BPD group had lower scores than those in the AD and NCC groups, $t(27) = 4.43$, $p = 0.00$, $r = 0.64$. Similarly, the BPD group had higher dissociation scores than women in the AD and NCC groups, $t(27) = 5.38$, $p = 0.00$, $r = 0.63$. The BPD group rated themselves lower on the Strong Attributes scale than the other groups, $t(27) = 3.81$, $p = 0.01$, $r = 0.59$. On the Antisocial scale, individuals with BPD associated their sense of self with more conflict in relationships, than the other two groups, $t(27) = 4.28$, $p = 0.00$, $r = 0.64$. With regards to appearance, the BPD group had lower ratings on the Appearance Positive scale, $t(27) = 3.60$, $p = 0.02$, $r = 0.45$, and higher ratings on the Appearance Negative scale than the AD and NCC groups, $t(27) = 3.54$, $p = 0.01$, $r = 0.56$. The BPD group also rated themselves higher for Personality Negative than the other groups, $t(27) = 3.09$, $p = 0.01$, $r = 0.51$. On the Distress scale the BPD group scored higher than individuals in the AD and NCC groups, $t(27) = 4.23$, $p = 0.00$, $r = 0.63$. Conversely, individuals in the BPD group had lower scores on the Comfort and Pleasure scale that the other groups, $t(27) = 2.89$, $p = 0.01$, $r = 0.49$. (See Appendix F for full results of the analyses). These findings are presented visually in Figure 1a and 1b.

INSERT FIGURES 1a AND 1b HERE

Other perspective ratings made by groups were also explored. Other perspectives selected by participants are displayed in Table 2.

INSERT TABLE 2 HERE

Table 2 shows that the mother's perspective was most often selected in the NCC group, partner or spouse perspective in the AD group, and in the BPD group a mix of perspectives were selected, including those of friends and a child, perspectives not chosen by anyone in the other groups.

There were significant effects of group on other perspective ratings on the following scales: Antisocial, Dissociation, Distress, Comfort and Pleasure, and Social Roles. The BPD group anticipated others would rate them higher on the Antisocial scale compared with the AD and NCC groups, $t(27) = 3.32$, $p = 0.00$, $r = 0.53$, and also predicted higher distress ratings from the others' perspective $t(27) = 2.79$, $p = 0.01$, $r = 0.45$. Regarding dissociation, BPD individuals made higher other perspective ratings than the AD group, $U = 21.5$, $p = 0.03$, $r = 0.48$ and the NCC group, $U = 0.0$, $p = 0.00$, $r = 0.85$, with the AD group in turn making higher ratings than NCC groups, $U = 13.5$, $p = 0.00$, $r = 0.62$. On the Comfort and Pleasure scale, the BPD group gave lower other perspective ratings than the AD and NCC groups, $t(27) = 2.27$, $p = 0.03$, $r = 0.40$. Lower ratings were also made by BPD individuals for other perspective of social roles, compared with AD, $U = 21.0$, $p = 0.03$, $r = 0.49$ and NCC groups, $U = 21.0$, $p = 0.03$, $r = 0.49$ (See Appendix F for full analyses).

*Within Subjects Differences in ratings on Who Are You? Questionnaire (Self vs Other)*

In Table 3, the "Differences in type of rating" column demonstrates significant within-subject differences for sense of self and other perspective ratings. On Occupation, Integration, Appearance Positive, Strong Attributes and Positive Personality scales, participants made lower self ratings than they made for the other's perspective. On the Distress scale, participants rated their distress significantly higher than they believed their identified other perspective would rate it. There were no significant within-subject differences on any other scales.

INSERT TABLE 3 HERE

*Differences Between Groups in Sense of Self and Sense of Other Perspective Discrepancies: Group x Type of Rating Interactions*

The Appearance Negative scale demonstrated a significant interaction of group x type of rating. Therefore it is only on this scale that the groups differed significantly in terms of discrepancies between their sense of self and their sense of how others see them (Figure 3). For this scale, paired t-tests were undertaken to compare self and other perspective ratings made by each group. The BPD group had significantly higher self ratings than other perspective ratings, $t(9) = 8.4$, $p = 0.00$, $r = 0.95$, as did the NCC group, $t(9) = 3.20$, $p = 0.01$, $r = 0.73$. There was no significant difference between self and other rating for the AD group. In order to investigate the hypothesis that individuals with BPD would have less discrepancy between their sense of self and sense of other's perspective, a follow up one-way ANOVA of difference scores was undertaken to identify which group had the smallest discrepancy between ratings. This analysis demonstrated that the BPD group had

significantly larger discrepancies between self and other perspective ratings in comparison to the other groups, with BPD participants reporting that they hold a more negative view of their appearance than they believe others hold for them, $F(2, 27) = 12.21$, $p = 0.00$, $\omega = 0.65$; $t(27) = 4.87$, $p = 0.00$, $r = 0.68$. Therefore the BPD and NCC group have a more negative view of themselves than they believe others do, and the discrepancy between sense of self and sense of other perspective is significantly larger in the BPD group compared to both other groups.

INSERT FIGURE 3 HERE

*Self Reports of Information used to Rate Sense of Self*

The questionnaire contained a record of what sources of information participants used to make sense of self ratings. It was expected that individuals in the BPD group would rely more on the responses and opinions of others when making decisions about how to rate their sense of self. Sources of information on which ratings of sense of self were based are shown for each group in Table 4.

A 3x2 mixed design ANOVA was used to check for significant differences between groups. There was no significant group x basis of ratings interaction ($F(1, 27) < 1$). However there was a significant within subject effect of basis of ratings, with participants using more of their own evaluations of their experiences to make judgments about their sense of self, $F(1, 27) = 11.75$, $p = 0.00$. The BPD group therefore did not differ significantly with regards the sources of information used to rate sense of self in comparison to the AD and NCC groups.

*Extreme Endorsement of Questionnaire Items: Estimates of Self Integration*

In addition to the questionnaire scale measuring integration of self, endorsement of extreme ratings (‘1’s or ‘5’s) on the questionnaire were considered as a possible indicator of level of integration of sense of self. Extreme endorsement was examined for all scales in which there were significant differences between groups’ sense of self ratings (Dissociation, Strong Attributes,, Antisocial, Appearance Positive and Negative, Personality Negative, Social Roles, Distress and Comfort and Pleasure). The Integration scale was not included in this analysis as it already offers a measure of Integration. Figure 4 displays extreme ratings per group (See also Table 6, Appendix F).

INSERT FIGURE 4 HERE

There were no significant differences in extreme ratings between groups for Dissociation, Antisocial, Appearance Negative, Personality Negative, Social Roles, and Distress scales (See Appendix F).

The BPD group made more extreme ratings on the Strong Attributes scale than the other groups, $H(2) = 14.91$, $p = 0.00$; $U = 17.5$, $p = 0.01$, $r = 0.55$, and $U = 2.50$, $p = 0.00$, $r = 0.81$, respectively (Bonferroni corrections set the significance level at 0.017 for these analyses). There were significant differences between groups on the Appearance Positive scale, $H(2) = 11.94$, $p = 0.01$, with the BPD group again making more extreme ratings than the AD group, $U = 8.5$, $p = 0.01$, $r = 0.70$, and also the NCC group, $U = 15.0$, $p = 0.01$, $r = 0.60$. Extreme ratings between groups were different in relation to items of Comfort and Pleasure, $H(2) =$

15.22, p = 0.00. Those in the BPD group made more extreme ratings than individuals in the AD group (U = 13.50, p = 0.01, r =0.63), and those in the NCC group (U = 3.5, p = 0.00, r = 0.80). Thus there is some evidence that individuals with BPD are make more extreme endorsements in relation to appearance, attributes, and comfort and pleasure aspects of self.

## DISCUSSION

Recent literature suggests that role absorption and lack of integration may be the mechanisms underpinning unstable sense of self in BPD, which in itself is proposed to have a central and early role in the development and maintenance of the disorder. In this context it was hypothesised that individuals with BPD would have less discrepancy in their views of self when compared to their view of how others see them, and they would demonstrate a less integrated, more fragmented sense of self when completing relevant questionnaire items. The results of the present study partially support the fragmented sense of self hypothesis, however, are inconsistent with the hypothesis of role absorption.

Firstly, the study furthers our understanding regarding the content of sense of self that individuals with BPD hold. The results demonstrate females with BPD have a sense of self that is significantly less strong, more antisocial, and less attractive, more distressed, more negative, less comforted and associated with fewer social roles than individuals with no personality disorder. Self image was especially negative in the borderline group in this study, persisting despite their belief that significant others held more positive views of their appearance. This finding is perhaps not surprising however, given the high prevalence of eating disorders in the BPD population (Zanarini et al, 2004). DiMaggio and colleagues

(2006) propose that one of the four likely elements of self pathology is "problematic contents" – the content of the negative thoughts and emotions that make up individuals' self narratives. This is an important point, as in light of some of the more structural conceptualisations of unstable self in BPD, for example the integration and role absorption discussed in this study, it is easy to overlook the reality that the overall sense individuals with BPD have of themselves is fundamentally negative and sad (Jorgensen, 2009). Their own understanding and appreciation of their qualities is poor (Livesley, 2006) and they view themselves as inherently unacceptable (Bateman & Fonagy, 2003; Davidson, 2007).

Whilst this negative content of cognitions and emotions is distressing for individuals with BPD, it is not the main problem with their sense of self. Jorgensen (2009) argues that it is the incoherence, disorganisation and resulting fragmentation of this information that is problematic in BPD. This study explored unstable sense of self in the context of lack of integration, which was measured in terms of extreme endorsement of items on questionnaires, which was hypothesised to be indicative of splitting. When there were differences in the rates of extreme endorsement between groups, it was due to the BPD group making significantly more extreme ratings than other groups, and these were in relation to the possession of strong attributes, a positive appearance, and the association of self with words representing comfort and pleasure. Individuals with BPD also self reported that they were less integrated than individuals with no personality disorder, and reported a greater sense of dissociation. This lack of integration is consistent with various theoretical conceptions of BPD (Bradley & Westen, 2005; Fuch, 2007; Livesley, 1998, 2000, 2006; Clarkin et al, 2007).

In terms of role absorption underpinning unstable sense of self, the results of the study demonstrate that individuals with BPD do not have less discrepancy between their sense of self and their sense of how others see them, when compared with females with no personality disorder. In fact, the only significant result relating to this hypothesis was that individuals with BPD have a greater discrepancy between their sense of self image and their sense of how others view their appearance. This finding is highly interesting, as it demonstrates that individuals with BPD have the ability to think about an aspect of self independently from what they know (or believe they know) is the view of a significant other. The mentalization model of BPD (Fonagy & Bateman, 2008) proposes that in the context of attachment relationships, individuals with BPD tend to "misread minds" and struggle to make sense of the mental processes of others, in particular at times of high emotional arousal. In the present study, those with BPD appeared to utilise others' perspectives in a similar way to individuals with no personality disorder, suggesting that in certain situations they are able to interpret and reflect on the thoughts and beliefs held by close others. The high depression and anxiety scores for the BPD group on the BDI and BAI may also be suggestive of individuals experiencing high levels of affect during the task. A more targeted measure of emotional arousal during the research session may have been helpful in clarifying participants' emotional state during the study; however at present the results of this study do not appear to be consistent with the mentalization model of BPD.

Examination of self and other ratings for all participants indicated that on only 7 of 16 questionnaire scales did individuals view themselves as significantly different to how they believe another person views them. This suggests that informing sense of self from the views of others may be a natural, adaptive process utilised by all individuals, and in this study was not utilised by those with BPD to any greater or excessive extent. All individuals in the study

recorded that they used significantly more of their own evaluations when making judgements about their sense of self than they used information from others, and the BPD group were no different to other participants in this regard. This study therefore did not identify role absorption to be a particular issue for females with BPD. It is perhaps possible that instead of over-reliance on others to inform their sense of self as hypothesised in this study, individuals with BPD infer their sense of self from their emotional state. For example, the negative sense of self ratings made by BPD females in the present study demonstrate consistency with their high self reported depression scores and high rates of depressive disorder co-morbidity. This was certainly a finding made by Jorgensen's study (2009), in which 66 individuals with BPD had significantly higher rates of "diffuse-avoidant identity style" when compared to a control group of female psychology students. This identity style is characterised as driven by emotions, situations and the "here and now". Such a conceptualisation appears highly relevant to individuals with BPD, in whom splitting occurs in terms of past, present and future, and highly intense emotions are experienced and expressed.

An important issue to consider is whether in fact the questionnaire methodology used in this study actually measured sense of self. Some scales of the questionnaire have clear relevance for sense of self – for example the ones relating to personality, self image, and integration. However, other scales such as Occupation, Political Views and Comfort and Pleasure arguably relate more to the broader concept of identity in which individuals view themselves in the wider context of society and culture (Jorgensen, 2006). It is also of note that in addition to the Agency Scale, participants as a whole most frequently indicated that items on the Political Views and Occupation scales were "Not like me," perhaps indicating that they did not see the relevance of these items to their sense of self. A wider issue is whether self report measures are appropriate for measuring a construct like sense of self, especially among

of group of individuals who are known to have significant difficulties with identity, sense of self and self reflection (Westen & Heim, 2003). It is undoubtedly a challenge to empirically define and measure such a poorly defined concept, such that this appears to have been attempted in only two previous studies (Wilkinson-Ryan & Westen, 2000; Jorgensen, 2009).

*Limitations*

There are limitations in this study. Firstly, the small sample size. Whilst this is always problematic it is a particular disadvantage when studying a population as heterogeneous as BPD. The BPD group in this study was likely not large enough to represent the wider population of females with BPD, and the lack of non-respondent data inhibited further exploration of this issue. It may also be the case that some subscales failed to detect significant differences as to do so larger sample sizes would be required.

There were also some methodological issues with the study. A potential problem is that the non clinical control group were not screened for Axis I and II disorders. This means that it is not possible to be confident that this group did not experience mental health problems. Given that this study found that BPD individuals and clinical controls did not differ significantly from the non clinical control group on almost all measures, it is a serious limitation that the study does not provide clarity regarding which population the non clinical control group may represent. Another methodological weakness is the multiple choice of significant others used to rate the Who Are You? Questionnaire. Attachment literature demonstrates that the choice of attachment figure selected for self report measures can significantly alter outcomes (Agrawal et al 2004). Given that in this study sense of self was understood to be based on attachment representations, it is likely that the questionnaire should have requested that all participants refer to the same significant other, for example the primary care giver. This

would have improved consistency in responding, as it is possible that the significant other selected by individuals was not always someone who was most influential in informing participants' sense of self. In this respect, the findings of the study that role absorption does not appear to contribute to unstable sense of self in BPD may have been due to the questionnaire failing to target key relationships that informed individuals' sense of self.

Finally, with regards to limitations, it may be possible to argue that differences found between groups in this study could reflect differences in severity of pathology, rather than differences in sense of self in the diagnostic groups. Measures of severity of anxiety and depression were taken, as were measures of co-morbidity, and this did demonstrate some differences between groups. It is therefore possible that differences between groups could reflect more generalised psychopathology rather than specific differences within diagnostic groups. This possibility could be explored in further studies.

*Clinical Applications*

Clinical implications of this study may be to further contribute to the development of relatively new therapies which aim specifically at supporting individuals with BPD to integrate sense of self and develop more positive self representations, for example schema focused CBT (Young, 2003) and Cognitive Analytical Therapy (Ryle, 1997). The study may also help professionals and service users to better understand BPD, as it remains poorly understood and formulated in some services. It is also a reminder that in certain circumstances individuals with BPD possess excellent awareness of others' views of them, to the same extent that individuals with no personality disorder do. The study also poses many

questions for future research. In particular, it would useful for further studies to measure sense of self and its stability over a period of time, and to more specifically target the link between current affective states and sense of self. Given the findings, limitations, and potential practical implications of the present study, this would appear to be a valuable direction for future research.

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*Table 1. Group Characteristics*

| | **BPD** | **Clinical Controls** | **Non Clinical Controls** |
|---|---|---|---|
| | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* |
| Age | 38.5 (11.5) | 41.5 (13.3) | 48.6 (9.5) |
| Verbal IQ | 104.3 (7.3) | 110.4 (11.3) | 108.6 (5.9) |
| BDI | 41.5 (8.1) | 22.1 (15.9) | 13.7 (12.1) |
| BAI | 27.6 (14.5) | 19.2 (13.2) | 11.7 (11.3) |

*Table 2. Frequency of other perspective selected*

| **Other perspective selected by participant** | **BPD** | **Depression/Anxiety** | **Non Clinical Controls** |
|---|---|---|---|
| | *Frequency (%)* | *Frequency (%)* | *Frequency (%)* |
| Mother | 3 (30%) | 4 (40%) | 7 (70%) |
| Partner/Spouse | 3 (30%) | 6 (60%) | 3 (30%) |
| Friend | 3 (30%) | 0 (0%) | 0 (0%) |
| Child | 1 (10%) | 0 (0%) | 0 (0%) |

*Table 3: Between Group differences, Within Subjects differences, and Group x Self/Other Rating Interactions for Who Are You? Questionnaire Scales*

| Scale and type of rating | Subscale Scores for each group Mean (SD) | | | Group by self/other rating interaction | Group differences (Between subjects) | Difference in type of rating (within subjects) |
|---|---|---|---|---|---|---|
| | BPD | ANX/DEP | NCC | | | |
| *AGENCY* | | | | | | |
| Self | 40.2 (13.5) | 49.9 (12.1) | 42.0 (7.7) | F(2, 27) = 1.19, p = 0.32 | F (2, 27) < 1 | F (1, 27) < 1 |
| Other perspective | 46.6 (21.8) | 49.6 (17.5) | 41.7 (9.8) | | | |
| Difference | 6.4 (15.1) | 0.3 (9.1) | 0.3 (7.9) | | | |
| *OCCUPATION* | | | | | | |
| Self | 37.1 (16.6) | 47.5 (9.5) | 46.6 (9.3) | F (2, 27) = 1.34 p = 0.28 | F (2, 27) < 1 | F (1, 27) = 4.33, p = 0.04 |
| Other perspective | 45.3 (22.8) | 51.1 (11.9) | 47.0 (10.0) | | | |
| Difference | 8.2 (13.5) | 3.6 (11.4) | 0.4 (5.5) | | | |
| *POLITICAL VIEWS* Self | 31.4 (14.9) | 44.9 (15.5) | 41.9 (9.4) | F (2, 27) < 1 | F (2, 25) = 2.13, p= 0.14 | F (1, 25) = 2.23, p = 0.15 |
| Other perspective | 28.8 (9.4) | 51.1 (12.0) | 39.5 (12.0) | | | |
| Difference | 4.1 (15.5) | 3.3 (9.7) | 2.4 (9.3) | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *SOCIAL ROLES* | | | | | | |
| Self | 50.3 (9.5) | 61.5 (5.2) | 63.3 (7.9) | F (2, 27) < 1 | F (2, 27) = 5.94, p = 0.01 | F (1, 27) < 1 |
| Other perspective | 51.7 (11.0) | 59.7 (10.8) | 62.9 (9.6) | | | |
| Difference | 1.4 (7.1) | 1.8 (7.6) | 0.7 (8.3) | | | |
| *INTEGRATION* | | | | | | |
| Self | 19.1 (5.6) | 29.4 (8.2) | 33.1 (7.2) | F (2, 27) = 1.36, p = 0.27 | F (2, 27) = 6.03, p = 0.01 | F (1, 27) = 10.88, p = 0.01 |
| Other perspective | 27.4 (9.5) | 32 (9.0) | 36.9 (11.4) | | | |
| Difference | 8.3 (10.3) | 2.6 (4.9) | 3.8 (8.2) | | | |
| *DISSOCATION* | | | | | | |
| Self | 36.0 (4.4) | 24.6 (10.4) | 18.7 (9.9) | F (2, 27) = 1.54, p = 0.23 | F (2, 27) = 20.62, p = 0.00 | F (1, 27) = 3.13, p = 0.09 |
| Other perspective | 32.2 (6.7) | 24.6 (9.1) | 13.0 (3.8) | | | |
| Difference | 1.8 (6.0) | 0.0 (8.7) | 5.7 (7.3) | | | |
| *PROSOCIAL* | | | | | | |
| Self | 26.8 (8.6) | 33.8 (12.5) | 36.8 (5.7) | F (2, 27) < 1 | F (2, 27) = 2.81, p = 0.08 | F (1, 27) < 1 |
| Other perspective | 28.9 (7.9) | 33.8 (12.5) | 36.8 (5.7) | | | |
| Difference | 2.1 (5.3) | 0.4 (9.5) | 2.3 (6.4) | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *ANTISOCIAL* | | | | | | |
| Self | 36.8(10.3) | 23.2 (8.8) | 20.3 (19.5) | F (2, 27) = 2.48, p = 0.10 | F (2, 27) = 8.75, p = 0.00 | F (1, 27) = 2.83, p = 0.10 |
| Other perspective | 33.2 (8.7) | 24.7 (9.7) | 17.2(10.1) | | | |
| Difference | 3.6 (6.2) | 1.5 (5.7) | 3.1 (5.0) | | | |
| *APPEARANCE POSITIVE* | | | | | | |
| Self | 17.4 (6.9) | 23.8 (5.1) | 22.5 (5.0) | F (2, 27) = 2.16, p = 0.13 | F (2, 27) < 1 | F (1, 27) = 34.61, p = 0.00 |
| Other perspective | 31.0 (6.6) | 30.6 (8.8) | 29.3 (10.0) | | | |
| Difference | 13.6 (10.4) | 6.8 (7.2) | 6.8 (7.4) | | | |
| *APPEARANCE NEGATIVE* | | | | | | |
| Self | 36.3 (9.9) | 25.6 (9.0) | 22.4 (7.8) | F (2, 27) = 12.21, p = 0.00 | F (2, 27) = 2.59, p = 0.09 | F (1, 27) = 52.69, p = 0.00 |
| Other perspective | 20.0 (6.9) | 22.4 (9.9) | 16.8 (9.9) | | | |
| Difference | 16.3 (5.8) | 3.2 (7.4) | 5.6 (5.5) | | | |
| *WEAK ATTRIBUTES* | | | | | | |
| Self | 35.7 (8.3) | 34.9 (5.0) | 37.7 (6.3) | F (2, 27) = 1.41, p = 0.26 | F (2, 27) < 1 | F (1, 27) < 1 |
| Other perspective | 33.3 (10.2) | 37.3 (8.5) | 34.4 (5.6) | | | |
| Difference | 2.4 (10.5) | 2.4 (7.0) | 3.4 (6.6) | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| *STRONG ATTRIBUTES* | | | | | | |
| Self | 17.5 (5.5) | 29.9 (8.6) | 24.1 (4.6) | F (2, 27) = 2.83, p = 0.08 | F (2, 27) = 4.78, p = 0.02 | F(1, 27) = 10.51, p = 0.00 |
| Other perspective | 27.4 (9.2) | 31.5 (8.1) | 27.3 (6.8) | | | |
| Difference | 9.9 (8.7) | 1.6 (7.8) | 3.2 (8.6) | | | |
| *PERSONALITY POSITIVE* | | | | | | |
| Self | 30.6 (9.3) | 36.1 (7.5) | 34.7 (2.8) | F (2, 27) = 1.64, p =0.21 | F (2, 27) < 1 | F (1, 27) = 12.51, p = 0.00 |
| Other perspective | 39.0 (6.8) | 37.8 (9.8) | 41.0 (9.8) | | | |
| Difference | 8.4 (7.2) | 1.7 (9.7) | 6.3 (8.3) | | | |
| *PERSONALITY NEGATIVE* | | | | | | |
| Self | 29.0 (6.6) | 23.7 (6.2) | 18.4 (7.5) | F (2, 27) = 1.28, p = 0.29 | F (2, 27) = 4.85, p = 0.02 | F (1, 27) = 3.13, p = 0.08 |
| Other Perspective | 24.4 (5.5) | 22 (5.6) | 18.4 (9.1) | | | |
| Difference | 4.6 (7.8) | 1.7 (6.3) | 0.0 (5.1) | | | |
| *DISTRESS* | | | | | | |
| Self | 21.0 (3.7) | 15.2 (3.6) | 13.1 (5.1) | F (2, 27) < 1 | F (2, 27) = 7.58, p = 0.00 | F (1, 27) = 16.37, p = 0.00 |
| Other perspective | 17.2 (5.4) | 12.6 (4.1) | 11.1 (5.3) | | | |
| Difference | 3.8 (3.9) | 2.6 (3.8) | 2.0 (3.6) | | | |

*COMFORT AND PLEASURE*

| | | | | | | |
|---|---|---|---|---|---|---|
| Self | 36 .0 (9.6) | 42.9 (8.6) | 48.4 (7.5) | F (2, 27) < 1 | F (2, 27) = 6.72, p = 0.00 | F (1, 27) = 3.03, p = 0.93 |
| Other perspective | 39.4 (7.2) | 43.1 (10.6) | 53.8 (12.4) | | | |
| Difference | 3.4 (7.8) | 0.2 (5.9) | 5.4 (13.1) | | | |

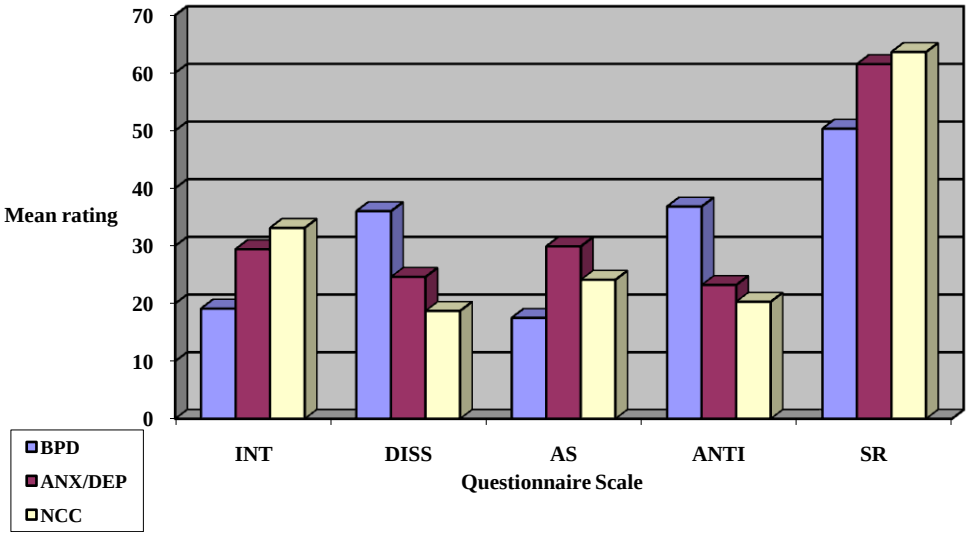
*BPD = Borderline Personality Disorder, ANX/DEP = Anxiety and Depression (Clinical Controls), NCC = Non clinical controls*

*Table 4. Self report of sources used to rate sense of self on Who Are You? Questionnaire*

| **Basis of ratings** | **BPD** | **Dep and Anx** | **NCC** |
|---|---|---|---|
| | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* |
| "Own evaluation of my experiences with others" | 22.8 (8.4) | 28.4 (6.9) | 25.3 (11.5) |
| "Others' responses to my behaviour" | 18.6 (9.0) | 21.5 (7.9) | 15.9 (11.2) |

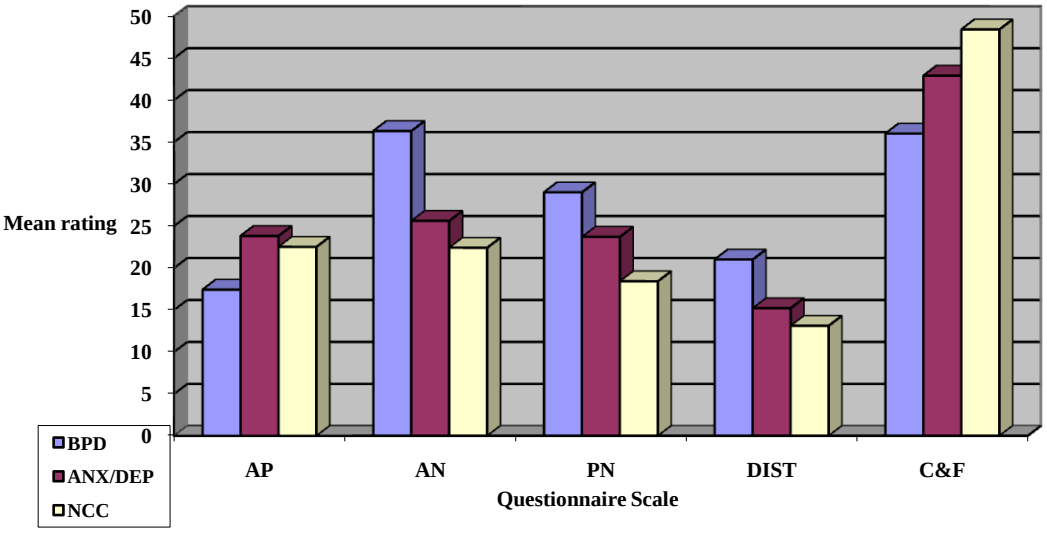
*BPD = Borderline Personality Disorder, Dep and Anx = Depression and Anxiety group, NCC = Non Clinical Control Group*

*Figure 1a. Mean Self Ratings for Groups on Questionnaire Scales*




INT = Integration, DISS = Dissociation, AS = Strong Attributes, ANTI = Antisocial, SR = Social Roles.

*Figure 1b. Mean Self Ratings for Groups on Questionnaire Scales (Part II)*




AP = Appearance Positive, AN = Appearance Negative, PN = Personality Negative, DIST = Distress, C&F = Comfort and Pleasure

**Figure 3. Discrepancies between self and other perspectives of negative appearance between groups**

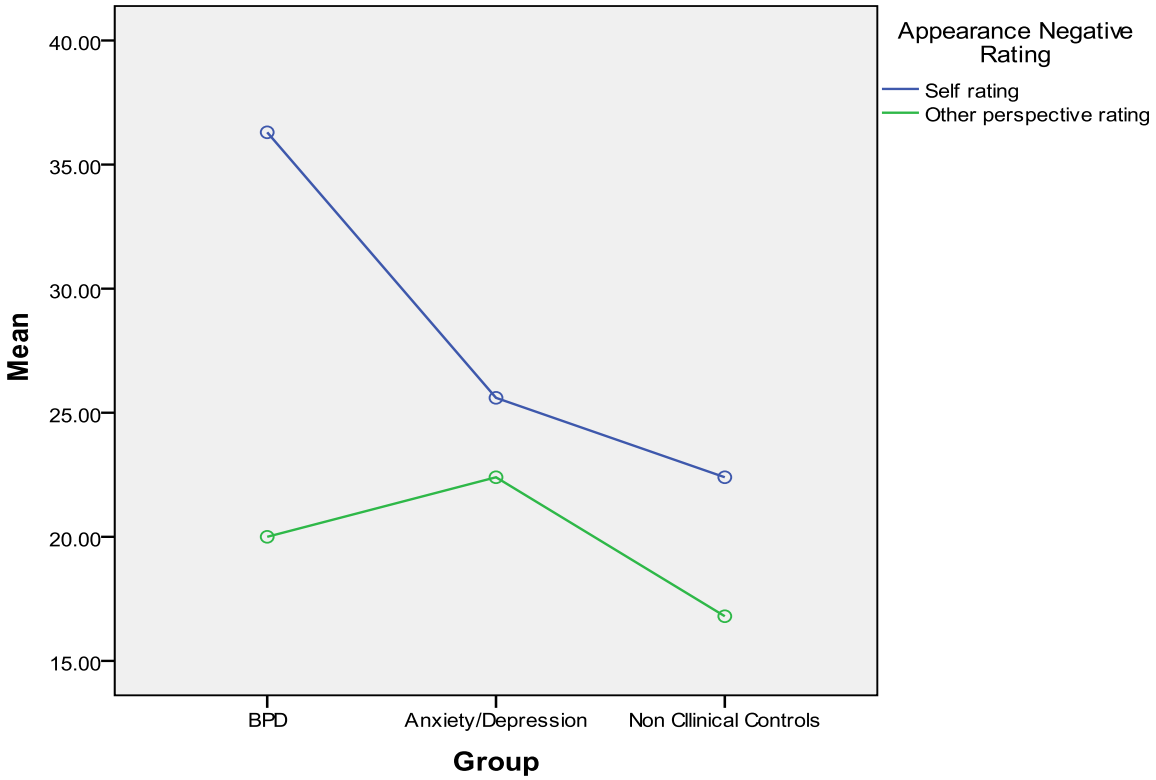
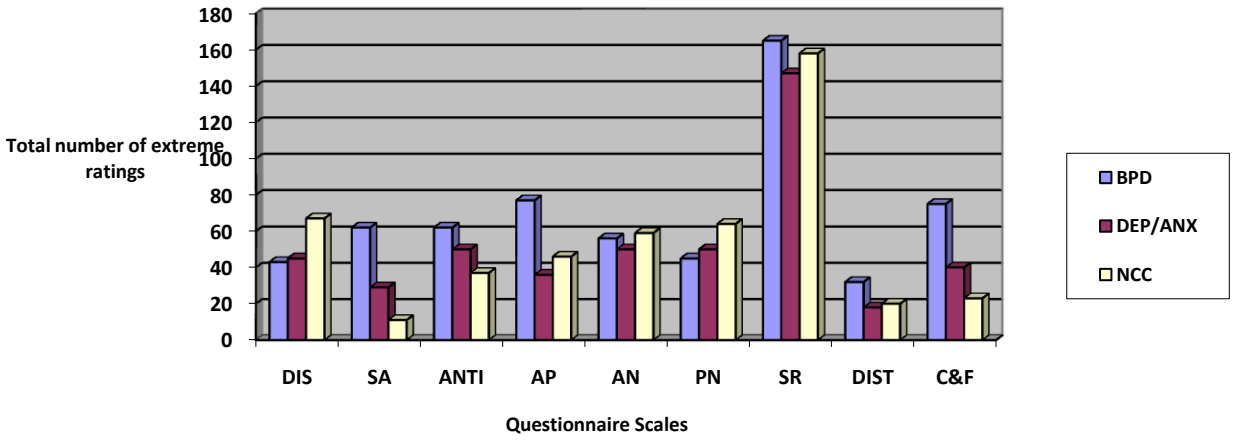


Figure 4. Extreme Endorsement of Self Ratings for Groups on Questionnaire Scales




*DIS = dissociation, SA = strong attributes, ANTI = antisocial, AP= appearance positive, AN = appearance negative, PN = personality negative, SR = social roles, DIST = distress, C&F = comfort and pleasure.*

Appendix A:

**Journal of Personality Disorders**
**Official Journal of the International Society for the Study of Personality Disorders**

Edited by Paul S. Links, MD, MSc, FRCPC
University of Toronto

**Instructions To Authors**

Types of Articles

**Regular Articles**: Reports of original work should not exceed 20 pages (typed, double lined spaces and with standard margins, including tables, figures, and references).

**Invited Essays and Special Articles**: These articles provide an overview of broad ranging areas of research and conceptual formulations dealing with substantive theoretical issues. Reports of large scale definitive empirical studies may also be submitted. Articles should not exceed 30 pages including tables, figures, and references. Authors contemplating such an article are advised to contact the editor in advance to see whether the topic is appropriate and whether other articles in this topic are planned.

**Brief Reports**: Short descriptions of empirical studies not exceeding 10 pages in length including tables, figures, and references.

**Manuscript Preparation and Submission**: Manuscripts must be typewritten, double spaced, prepared for blind review, and submitted along with a cover letter to the Journal's Editor via email to the Editorial Office at ezardd@smh.toronto.on.ca. All articles should be prepared in accordance with the Publication Manual of the American Psychological Association (5th. Ed.), (e.g., they must be preceded by an abstract of 100-150 words and adhere to APA referencing format).

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- 

Appendix B:

*Table 2: Summary of Excluded Articles*

| Search | Number of articles returned | Number of Articles excluded | | | | | | Total number of articles remaining |
|---|---|---|---|---|---|---|---|---|
| | | Not relevant to topic | Review/ discussion papers | Book chapters | Not from peer reviewed source | Foreign language | Duplicate of OVID multi-database search | |
| OVID Multi-database | 328 | 267 | 21 | 4 | 4 | 4 | 1 | 27 |
| PsycINFO | 126 | 121 | 0 | 1 | 1 | 2 | 0 | 1 |
| Medline | 284 | 282 | 0 | 0 | 0 | 0 | 1 | 1 |
| Social Policy and Practice | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| EMBASE | 55 | 50 | 1 | 0 | 0 | 1 | 1 | 2 |
| ERIC | 13 | 8 | 3 | 0 | 0 | 0 | 1 | 1 |
| EBSCO Multi-database | 18 | 5 | 0 | 0 | 0 | 0 | 4 | 0 |
| Psychology and Behavioural Sciences Collection | 13 | 4 | 5 | 0 | 0 | 0 | 4 | 0 |
| Health and Nursing | 3 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |

Appendix C:

1. **Systematic Review Quality Rating Tool for Case-Controlled Studies**

| | | |
|---|---|---|
| Quality Checklist for studies (based on SIGN checklists) | | |
| Paper Title: | | Relevant Questions: |
| Checklist completed by: | | |
| **SECTION 1: INTERNAL VALIDITY** | | |
| **In a well conducted study:** | | **In this study the criteria is: (Circle on option for each question)** |
| 1.1 | The study addresses an appropriate and clearly focused question(s) (or aim(s)) | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| **SELECTION OF SUBJECTS:** | | |
| 1.2 | The groups being studied are selected from comparable populations | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.3 | The study indicates how many of the people who were asked to take part in the study did, for each of the groups being studied. | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.4 | The study indicates how individuals were selected/assigned to each group, and which tools were used to make these decisions (e.g. SCID-II, IPDE, MMPI etc) | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |

| | | |
|---|---|---|
| 1.5 | The same exclusion criteria are used for both groups | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.6 | Comparison is made between participants and non participants to establish their similarities and differences | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.7 | When a control group has been used (e.g. students, individuals with no mental health problems) the study has clearly established that controls are not cases (i.e. they do not have a personality disorder or other mental health problem) | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.8 | If applicable, the study reports the percentage of individuals recruited into each group who dropped out before the study was completed<br><br>What is this percentage? | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.9 | If applicable, comparison is made between full participants and those lost to follow–up, by diagnostic, group or attachment status. | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| **ASSESSMENT** | | |
| 1.10 | Assessment of attachment and other variables (e.g. aggression, depression, impulsivity) is clearly defined. | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.11 | Assessment of attachment and other variables is made blind to group or diagnostic status. | Well covered Not addressed<br>Adequately addressed Not reported |

| | | |
|---|---|---|
| | | Poorly addressed Not applicable |
| 1.12 | Where blinding was not possible, there is some recognition that knowledge of diagnostic or group status could have influenced the assessment of attachment or other variables. | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.13 | Attachment is measured in a standard, reliable and valid way. | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| 1.14 | Evidence from other sources is used to demonstrate that the method of assessing attachment is valid and reliable. | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| **CONFOUNDING** | | |
| 1.15 | The main potential confounders are identified and taken into account in the design and analysis (e.g. childhood adversity, CSA, (Minzenberg et al 2006; "co-morbidities) | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| **STATISTICAL ANALYSIS** | | |
| 1.16 | Have confidence intervals been provided? | Well covered Not addressed<br>Adequately addressed Not reported<br>Poorly addressed Not applicable |
| **SECTION 2: OVERALL ASSESSMENT OF THE STUDY** | | |
| 2.1 | How well was the study done to minimise the risk of bias or confounding? | |
| 2.2 | Taking into account clinical | |

| | | |
|---|---|---|
| | considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the attachment styles measured are associated with the mental health problems/disorders represented in the study? | |
| **Summarise the authors' conclusions. Add any comments on your own assessment of the study, and the extent to which it answers the question.** | | |
| | | |

## 2.1 How well was the study done to minimise the risk of bias or confounding, and to establish an association between personality disorder and attachment?

This section relates to the overall assessment of the paper. It starts by rating the methodological quality of the study, based on your responses in Section 1 and using the following coding system:

| | |
|---|---|
| ++<br>**A** | **All or most** of the criteria have been fulfilled.<br>Where they have not been fulfilled the conclusions of the study or review are thought *very unlikely* to alter. |
| +<br>**B** | **Some** of the criteria have been fulfilled.<br>Those criteria that have not been fulfilled or not adequately described are thought *unlikely* to alter the conclusions. |
| -<br>**C** | **Few or no** criteria fulfilled<br>The conclusions of the study are thought *likely or very likely* to alter. |

**GUIDANCE for making ratings**

**1.1 The study addresses an appropriate and clearly focused question**

Unless a clear and well defined question is specified, it will be difficult to assess how well the study has met its objectives or how relevant it is to the question you are trying to answer on the basis of its conclusions.

The study should therefore clearly outline its question, either in the introduction or during the methodology section.

**1.2 The two (or more) groups being studied are selected from comparable populations**

Study participants may be selected from the target population (all individuals to which the results of the study could be applied), the source population (a defined subset of the target population from which participants are selected), or from a pool of eligible subjects (a clearly defined and counted group selected from the source population. **If the study does not include clear definitions of the source population it should be rejected.**

**1.3. The study indicates how many of the people who were asked to take part in the study did, for each of the groups being studied.**

Differences between the eligible population and the participants are important, as they may influence the validity of the study. A participation rate can be calculated by dividing the number of study participants by the number of eligible subjects. It is more useful if calculated separately for different groups. If the participation rate is low, or there is a large difference between the two groups, the study results may well be invalid due to differences between participants and non-participants. In these circumstances, the study should be downgraded, and rejected if the differences are very large.

**1.4 The study indicates how individuals were selected/assigned to each group, and which tools were used to make these decisions (e.g. SCID-II, IPDE, MMPI etc)**

The study should indicate how personality disorder has been measured. Interview tools such as the SCID-II and the IDPE should be considered to be more thorough and reliable methods than self report tools. If interview methods are used then the level of training of researchers and inter-rater reliability should be noted. Use of case records only to assign individuals to a personality disorder group should be considered the least reliable means of assigning individuals to groups. In these circumstances the study should be downgraded, or if there are other methodological problems too then consider rejecting the study completely

**1.5 The same exclusion criteria are used for both groups**

All selection and exclusion criteria should be applied equally to both groups. Failure to do so may introduce a significant degree of bias into the results of the study.

**1.6 Comparison is made between participants and non-participants to establish their similarities or differences**

Even if participation rates are comparable and acceptable, it is still possible that the participants selected to act as cases or controls may differ from other members of the source population in some significant way. A well conducted study will look at samples of the non-participants among the source population to ensure that the participants are a truly representative sample.

**1.7 When a control group has been used (e.g. students, individuals with no mental health problems)the study has clearly established that controls are not cases (i.e. they do not have a personality disorder or other mental health problem)**

Just as it is important to be sure that those assigned to a personality disorder or other disorder group actually have the disorder, it is important to be sure that controls do not have personality disorder or other disorder/mental health problem. Control subjects should be chosen so that information on their diagnostic status (i.e. that they do not meet criteria for PD) can be obtained or assessed in a similar way to that used for the selection of cases. If the methods of control selection are not described, the study should be rejected. **If different methods of selection are used for cases and controls the study should be evaluated by someone with a good understanding of the design of case-control studies.**

**1.8 If applicable, the study reports the percentage of individuals recruited into each group who dropped out before the study was completed**

The number of patients that drop out of a study should give concern if the number is very high. Conventionally, a 20% drop out rate is regarded as acceptable, but in observational studies conducted over a lengthy period of time a higher drop out rate is to be expected. A decision on whether to downgrade or reject a study because of a high drop out rate is a matter of judgement based on the reasons why people dropped out, and whether drop out rates were comparable in the different groups. Reporting of efforts to follow up participants that dropped out may be regarded as an indicator of a well conducted study.

**1.9 If applicable, comparison is made between full participants and those lost to follow–up, by diagnostic, group or attachment status.**

For valid study results, it is essential that the study participants are truly representative of the source population. It is always possible that participants who dropped out of the study will differ in some significant way from those who remained part of the study throughout. A well conducted study will attempt to identify any such differences between full and partial participants in both the exposed and unexposed groups. Any indication that differences exist, should lead to the study results being treated with caution.

**1.10 Assessment of attachment and other variables (e.g. aggression, depression, impulsivity) is clearly defined.**

The study should clearly state how attachment and any other variables were measured. Attachment should be measured using a standard narrative or self report tool, and not using non-validated instruments designed by the authors. **If the measures used are not stated, or the study bases its main conclusions on secondary measures, the study should be rejected.** Where measures used require any degree of subjectivity, some evidence should be provided that the measures are reliable and have been validated prior to their use in the study.

**1.11 Assessment of attachment and other variables is made blind to group or diagnostic status.**

If the assessor of attachment is blinded to which participants are in which group, or to participants' diagnostic status, the prospects of unbiased results are significantly increased. Studies in which this is done should be rated more highly than those where it is not done, or not done adequately.

**1.12 Where blinding was not possible, there is some recognition that knowledge of diagnostic or group status could have influenced the assessment of attachment or other variables.**

Blinding is not possible in many cohort or case-controlled studies. In order to assess the extent of any bias that may be present, it may be helpful to compare process measures used on the participant groups - e.g. frequency of observations, who carried out the observations, the degree of detail and completeness of observations. If these process measures are comparable between the groups, the results may be regarded with more confidence.

**1.13 Attachment is measured in a standard, reliable and valid way**

A good study should indicate how attachment is measured. Clearly described measures that are shown to be reliable and valid should increase the confidence in the quality of the study. If studies have used interview, narrative or experimental measures of attachment, information should be provided about the level of training and/or experience interviewers have in using the assessment measure and information about inter-rater reliability should be offered.

**1.14 Evidence from other sources is used to demonstrate that the method of assessing attachment is valid and reliable.**

The authors explain why a particular assessment measure has been selected and offer references to support their choice.

**1.15 The main potential confounders are identified and taken into account in the design and analysis**

Confounding is the distortion of a link between personality disorder and attachment by another factor that is associated with both personality disorder and attachment style. The possible presence of confounding factors is one of the principal reasons why observational studies are not more highly rated as a source of evidence. The report of the study should indicate which potential confounders have been considered, and how they have been assessed or allowed for in the analysis. Clinical judgement should be applied to consider whether all likely confounders have been considered. If the measures used to address confounding are considered inadequate, the study should be downgraded or rejected, depending on how serious the risk of confounding is considered to be. **A study that does not address the possibility of confounding should be rejected.**

**1.16 Have confidence intervals been provided?**

Confidence limits are the preferred method for indicating the precision of statistical results, and can be used to differentiate between an inconclusive study and a study that shows no effect. Studies that report a single value with no assessment of precision should be treated with extreme caution.

## 2. Systematic Review Quality Rating Tool for Controlled Studies

| | | | |
|---|---|---|---|
| Study identification | | | |
| Relevant Questions: | | | |
| Checklist completed by: | | | |
| Section 1: Internal validity | | | |
| In a well conducted RCT study... | | In this study this criterion is: | |
| 1.1 | The study addresses an appropriate and clearly focused question. | Well covered<br>Adequately addressed<br>Poorly addressed | Not addressed<br>Not reported<br>Not applicable |
| 1.2 | What methods are used to decide who should be included and excluded from the study? (validated and reliable PD measures?) | Well covered<br>Adequately addressed<br>Poorly addressed | Not addressed<br>Not reported<br>Not applicable |
| 1.3 | The assignment of subjects to treatment groups is randomised | Well covered<br>Adequately addressed<br>Poorly addressed | Not addressed<br>Not reported<br>Not applicable |

| | | | |
|---|---|---|---|
| 1.3 | An adequate concealment method is used | Well covered<br><br>Adequately addressed<br><br>Poorly addressed | Not addressed<br><br>Not reported<br><br>Not applicable |
| 1.4 | Subjects and investigators are kept 'blind' about treatment allocation | Well covered<br><br>Adequately addressed<br><br>Poorly addressed | Not addressed<br><br>Not reported<br><br>Not applicable |
| 1.5 | The treatment and control groups are similar at the start of the trial | Well covered<br><br>Adequately addressed<br><br>Poorly addressed | Not addressed<br><br>Not reported<br><br>Not applicable |
| 1.6 | The only difference between groups is the treatment under investigation | Well covered<br><br>Adequately addressed<br><br>Poorly addressed | Not addressed<br><br>Not reported<br><br>Not applicable |
| 1.7 | All relevant outcomes are measured in a standard, valid and reliable way, blind to group or diagnostic status (with particular focus on attachment outcome measures) | Well covered<br><br>Adequately addressed<br><br>Poorly addressed | Not addressed<br><br>Not reported<br><br>Not applicable |
| 1.8 | What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed? | | |
| 1.9 | All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis) | Well covered<br><br>Adequately addressed<br><br>Poorly addressed | Not addressed<br><br>Not reported<br><br>Not applicable |
| 1.10 | Where the study is carried out at more than one site, results are comparable for all sites | Well covered<br><br>Adequately | Not addressed<br><br>Not reported |

| | | | |
|---|---|---|---|
| | | addressed<br><br>Poorly addressed | Not applicable |
| | | | |
| Section 2: Overall assessment of the study | | | |
| 2.1 | How well was the study done to minimise bias?<br><br>*Code ++, +, or -* | | |
| 2.2 | If coded as +, or - what is the likely direction in which bias might affect the study results? | | |
| 2.3 | Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention? | | |
| 3.15 | **Notes.** Summarise the authors' conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question. | | |
| | | | |

Appendix D: Who Are You? Questionnaire: Example of Questionnaire, Presentation, Scales and Items

**Example: AGENCY scale**

| **Which of the following words describe what you could be if given the opportunity?** |
|---|
| **Please respond to the question above by circling one number from 1 to 5 for each of the words listed on the left** |

| | **Not Like Me** | | | | **Like Me** |
|---|---|---|---|---|---|
| **artist** | **1** | **2** | **3** | **4** | **5** |
| **writer** | **1** | **2** | **3** | **4** | **5** |
| **scientist** | **1** | **2** | **3** | **4** | **5** |
| **nurse** | **1** | **2** | **3** | **4** | **5** |
| **lawyer** | **1** | **2** | **3** | **4** | **5** |
| **pilot** | **1** | **2** | **3** | **4** | **5** |
| **engineer** | **1** | **2** | **3** | **4** | **5** |
| **boss** | **1** | **2** | **3** | **4** | **5** |
| **journalist** | **1** | **2** | **3** | **4** | **5** |
| **professor** | **1** | **2** | **3** | **4** | **5** |
| **singer** | **1** | **2** | **3** | **4** | **5** |
| **musician** | **1** | **2** | **3** | **4** | **5** |
| **painter** | **1** | **2** | **3** | **4** | **5** |
| **surgeon** | **1** | **2** | **3** | **4** | **5** |
| **librarian** | **1** | **2** | **3** | **4** | **5** |
| **reporter** | **1** | **2** | **3** | **4** | **5** |
| **academic** | **1** | **2** | **3** | **4** | **5** |

| | | | | | |
|---|---|---|---|---|---|
| **actress** | **1** | **2** | **3** | **4** | **5** |
| **novelist** | **1** | **2** | **3** | **4** | **5** |
| **athlete** | **1** | **2** | **3** | **4** | **5** |

**To what extent did you rely on the following sources of information to judge whether the words on the previously listed were "Like me" or "Not like me"? Please circle one number for Statement A and one number for Statement B below that best describes how you made your decision.**

**A – My own evaluation of my experiences with other people**

| No | A little | Yes | Quite a bit | A lot |
|---|---|---|---|---|
| **0** | **1** | **2** | **3** | **4** |

**B - How people have felt, what people have done, or what people have told me in response to my behaviour**

| No | A little | Yes | Quite a bit | A lot |
|---|---|---|---|---|
| **0** | **1** | **2** | **3** | **4** |

**SCALES AND ITEMS**

*OCCUPATION*: "Which of the following words describes what you do?"

Employee, executive, expert, deputy, personnel, operator, practitioner, professional, assistant, inspector, clerk, graduate, analyst, contractor, administrator, learner, amateur, labourer, instructor.

*POLITICAL VIEWS:* "Which of the following words relate to you?"

Politics, revolution, democracy, conservative, communist, democrat, coalition, feminist, voter, rebel, capitalist, unionist, republican, terrorist, nationalist, radical, activist, liberal, diplomat, reformer.

*SOCIAL ROLES:* "Which of the following words refer to you?"

Partner, adult, youth, neighbour, citizen, relative, lover, refugee, infant, cousin, twin, local, pensioner, teenager, carer, grandmother, offspring, housewife, pal, spouse.

*INTEGRATION:* "Which of the following words describe how you feel?"

Complete, solid, involved, conscious, live, visible, concrete, definite, controlled, bodily.

*DISSOCIATION:* "Which of the following words describe how you feel?"

Separate, empty, flat, remote, distant, automatic, faint, vague, invisible, unclear.

*PROSOCIAL*: "Which of the following words describes your experiences with other people?"

Contribution, involvement, co-operation, participant, integration, compromise, consensus, collaboration, inclusion, affinity

*ANTISOCIAL:* "Which of the following words describes your experiences with other people?"

Conflict, dispute, resistance, stranger, withdrawal, isolation, exclusion, outsider, confrontation, solo

*APPEARANCE POSITIVE*: "Which of the following words describe your appearance?"

Beautiful, attractive, conventional, pretty, desirable, neat, delicate, slim, striking, blonde

*APPEARANCE NEGATIVE:* "Which of the following words describe your appearance?"

Ordinary, grey, pale, fat, plain, gross, artificial, dull, ugly, dreadful

*WEAK ATTRIBUTES:* "Which of the following words describe you?"

Domestic, soft, weak, sensitive, gentle, modest, innocent, sympathetic, passive, faithful

*STRONG ATTRIBUTES*: "Which of the following words describe you?"

Active, powerful, firm, tough, competitive, dominant, determined, dynamic, ambitious, vigorous.

*PERSONALITY POSITIVE:* "Which of the following words describe you?"

Lovely, capable, adequate, pleasant, generous, intelligent, enthusiastic, charming, kind, talented

*PERSONALITY NEGATIVE:* "Which of the following words describe you?"

Strange, critical, mean, vulnerable, inadequate, nasty, unpleasant, shy, rude, helpless

*DISTRESS:* "Which of the following words describe things, actions or feelings that identify you?"

Pain, alone, injury, emotional, hurt.

*COMFORT AND PLEASURE:* "Which of the following words describe things, actions, or feelings that identify you?"

Release, safe, flower, relax, shoes, relieve, stable, laugh, secure, wonderful, calm, make-up, jewellery, indulge, cushion.

Appendix E: Table 5. Frequencies of Participant Response on The Who Are You? Questionnaire for all scales

*Table 5. Frequencies of participant responses on the Who Are You? Questionnaire for all scales*

| Scale | Frequency of ratings on Who Are You? Questionnaire | | | | | |
|---|---|---|---|---|---|---|
| | 1 - "Not like me" | 2 | 3 - "Neither 'like me' nor 'not like me'" | 4 | 5 - "Like Me" | missing |
| Agency | 300 (50%) | 68 (11.3%) | 91 (51.2%) | 93(15.5%) | 48 (8%) | 0 |
| Integration | 79 (26.3%) | 38(12.7%) | 73(24.3%) | 95(31.7%) | 13(4.3%) | 2(0.7%) |
| Dissociation | 105(35%) | 37(12.3%) | 58(19.3%) | 51(17%) | 45(15%) | 4(1.3%) |
| Attributes "Weak" | 27(9%) | 38(12.7%) | 50(16.7%) | 84(28%) | 97(32.3%) | 4(1.3%) |
| Attributes "Strong" | 88(29.3%) | 87(29%) | 64(21.3%) | 47(15.7%) | 14(4.7%) | 0 |
| Prosocial | 37(12.3%) | 37(12.3%) | 102(34%) | 82(27.4%) | 42(14%) | 0 |
| Antisocial | 95(31.7%) | 55(18.3%) | 55(18.3%) | 39(13%) | 54(18%) | 1(0.3%) |
| Occupation | 320(53.3%) | 63(10.5%) | 69(11.5%) | 74(12.3%) | 73(12.2%) | 1(0.2%) |
| Negative appearance | 103 (34.3%) | 27 (9.0%) | 56 (18.7%) | 57 (19.0%) | 54 (18.0%) | 3(1.0%) |
| Positive appearance | 140 (46.7%) | 48 (16.0%) | 60 (20.0%) | 29 (9.6%) | 21(7.0%) | 2 (0.7%) |
| Political Views | 325 (54.2%) | 58(9.7%) | 109 (18.1%) | 60 (10.0%) | 27 (4.5%) | 21 (3.5%) |
| Negative personality | 128 (42.7%) | 34 (11.3%) | 58 (19.3%) | 46 (15.3%) | 32 (10.7%) | 2 (0.7%) |
| Positive personality | 30 (10.0%) | 32 (10.7%) | 88 (29.3%) | 94 (31.3%) | 56 (18.7%) | 0 |
| Social roles | 255 (42.5%) | 23 (3.7%) | 41 (6.7%) | 73 (12.2%) | 206 (34.2%) | 2 (0.7%) |
| Comfort and Pleasure | 91 (20.2%) | 87 (19.3%) | 124 (27.5%) | 94 (20.8%) | 52 (11.5%) | 2 (0.7%) |
| Distress | 25 (16.7%) | 26 (17.3%) | 22 (14.7%) | 32 (21.3%) | 45 (30.0%) | 0 |

Appendix F

**Section1: Full Results of Follow Up One Way ANOVAs investigating group differences on the Who Are You? Questionnaire for sense of self ratings:**

*Differences between groups on the following scales were not significant:*

Agency, $F(2, 27) = 2.074$, $p = 0.145$, $\omega = 0.25$;

Weak Attributes, $F(2, 27) = 0.36$, $p = 0.698$, $\omega = 0.21$;

Prosocial, $F(2, 27) = 3.02$, $p = 0.066$, $\omega = 0.34$ ;

Occupation, $F(2, 27) = 2.20$, $p = 0.131$, $\omega = 0.27$ ;

Political Views, $F(2, 27) = 2.56$, $p = 0.097$, $\omega = 0.31$,

Personality Positive, $F(2, 27) = 1.63$, $p = 0.215$, $\omega = 0.20$.

*Differences between groups on the following scales were significant:*

Social roles, $F(2, 27) = 8.60$, $p = 0.001$, $\omega = 0.58$.

Integration, $F(2, 27) = 10.49$, $p = 0.000$, $\omega = 0.62$

Dissociation, $F(2, 27) = 10.27$, $p = 0.000$, $\omega = 0.62$

Strong Attributes, $F(2, 27) = 9.29$, $p = 0.001$, $\omega = 0.59$

Antisocial Scale, $F(2, 27) = 9.41$, $p = 0.001$, $\omega = 0.61$,

Appearance Positive, $F(2, 27) = 3.51$, $p = 0.044$, $\omega = 0.37$

Appearance Negative, $F(2, 27) = 6.59$, $p = 0.005$, $\omega = 0.52$

Personality Negative, $F(2, 27) = 6.40$, $p = 0.005$, $\omega = 0.51$

Distress, $F(2, 27) = 9.57$, $p = 0.001$, $\omega = 0.60$

Comfort and Pleasure, $F(2, 27) = 5.18$, $p = 0.012$, $\omega = 0.47$

**Section 2: Full results of follow Up One Way ANOVAs investigating group differences on the Who Are You? Questionnaire for sense of other perspective ratings**

The differences on the following scales were not significant:

Agency, $F(2, 27) < 1$

Weak Attributes, $F(2, 27) < 1$

Strong Attributes, $F(2, 27) < 1$

Occupation, $F(2, 27) < 1$

Appearance Positive, $F(2, 27) < 1$

Appearance Negative, $F(2, 27) < 1$

Political Views, $F(2, 27) = 1.76$, $p = 0.19$

Integration, $H(2) = 3.97$, $p = 0.138$

Prosocial, $H(2) = 5.213$, $p = 0.07$

Personality Positive, $H(2) = 1.81$, $p = 0.40$

Personality Negative, $H(2) = 4.15$, $p = 0.125$

Significant Differences:

Antisocial, $F(2, 27) = 7.06$, $p = 0.00$

Dissociation, H (2) = 17.86, p = 0.00

Social Roles, H (2) = 6.76, p = 0.03

Distress, F (2, 27) = 4.12, p = 0.03

Comfort and Pleasure, F (2, 27) = 5.29, p = 0.01

**Section 3: Full details of non significant results of Kruskal-Wallis tests for extreme ratings between groups:**

*Extreme Endorsement of Questionnaire Items: Estimates of Self Integration*

There were no significant differences in extreme ratings between groups for Dissociation (H(2) = 4.06, p = 0.13), Antisocial (H(2) = 3.07, p = 0.22), Appearance Negative (H(2) = 0.29, p = 0.87), Personality Negative (H(2) = 2.94, p = 0.24), Social Roles (H(2) = 0.02, p = 0.99), and Distress, H (2) = 3.28, p = 0.19.

**Table 6: Extreme Self Ratings Made By All Groups On Questionnaire Scales**

| Scale | Extreme ratings made by groups: Total number and median | | | | | |
|---|---|---|---|---|---|---|
| | BPD | | Anxiety/Depression | | No Mental Health problems | |
| | Total | Median | Total | Median | Total | Median |
| Integration | 57 | 6.0 | 24 | 1.0 | 6 | 0.0 |
| Dissociation | 43 | 3.5 | 45 | 4.0 | 67 | 7.0 |
| Attributes Strong | 62 | 6.5 | 29 | 1.5 | 11 | 1.0 |
| Antisocial | 62 | 6.5 | 50 | 4.5 | 37 | 3.0 |
| Appearance Positive | 77 | 7.5 | 36 | 4 | 46 | 4.5 |
| Appearance Negative | 56 | 5.5 | 50 | 5.5 | 59 | 6.0 |
| Personality Negative | 45 | 5.0 | 50 | 5.5 | 64 | 6.5 |
| Social Roles | 165 | 15.5 | 147 | 17.0 | 158 | 17.0 |
| Distress | 32 | 3.5 | 18 | 1.5 | 20 | 2.0 |
| Comfort and Pleasure | 75 | 8.0 | 40 | 4.0 | 23 | 2.5 |
| Total extreme ratings | 674 | 67.0 | 489 | 56.5 | 491 | 46.0 |

Appendix G

# Major Research Project Proposal

# Borderline Personality Disorder: A problem of role absorption and fragmented sense of self?

Kate Kennedy Black

Research Supervisors: Professor Kate Davidson and Dr Marc Obonsawin

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Word Count: 3, 872

## ABSTRACT

**Background**: Recent research in Borderline Personality Disorder (BPD) has begun to focus on the role of identity disturbance and unstable sense of self in maintaining difficulties for individuals with this diagnosis. This research suggests that people with BPD have fragmented sense of self and rely heavily on the views of others' to inform their sense of self. This makes people with BPD vulnerable in relationships; contributes to feelings of confusion and emptiness in relation to self; and presents a barrier to long term recovery.

**Aims**:

- To investigate self agency in individuals diagnosed with BPD in creating their sense of self in comparison to people with no personality disorder; anxiety disorders, affective disorders and a control group.
- To investigate the extent to which representations of self are integrated in individuals diagnosed with BPD, in comparison to people with no personality disorder; anxiety disorders, affective disorders and a control group.

**Methods**: A between-subjects questionnaire design will be used to investigate sense of self in individuals diagnosed with BPD.

**Applications**: Further information about problems relating to the self in BPD can help to inform therapy, inform interventions for interpersonal problems, and help to clarify the relationship between the self and affect regulation.

# INTRODUCTION

Borderline Personality Disorder (BPD) is the most researched of all the personality disorders and individuals with this diagnosis frequently present to mental health services seeking help for long standing and complex needs. One of the difficulties experienced by individuals with BPD relates to problems with identity and sense of self. Therapists describing their experiences of treating individuals with BPD comment that some of the most striking aspects of their presentation include "constantly shifting self states" and observe that as a result, the therapist is frequently required to become the keeper of the patient's self (Bender & Skodol, 2007). Patients with BPD commonly describe experiencing overwhelming feelings of emptiness, or, as Jorgensen (2006) reports, the feeling that "I am nothing at all". The DSM-IV BPD Criteria states that "Identity disturbance: markedly and persistently unstable self image or sense of self" is one of nine key criteria of which five are required to diagnose BPD. Similarly, the ICD-10 criteria for Emotionally Unstable Personality Disorder (2007), of which "Borderline type" is a subtype, states that the disorder is characterised by "disturbances in self-image, aims and internal preferences". Unfortunately, despite this recognition of the importance of self and identity in BPD, definitions of these concepts are not universally agreed upon within the literature, or clinically (Marcia, 2006; Jorgensen, 2006; Wilkinson-Ryan & Westen, 2000). Perhaps as a result of the difficulties encountered defining this important diagnostic criterion, research in the area of identity, self and BPD has increased in recent years. Researchers from different theoretical backgrounds have endeavoured to conceptualise what is meant by "identity disturbance" and "unstable self image"; investigating the role they play in the development of BPD; and proposing that there will be great value to patients if these difficulties can be understood and addressed directly as a focus of therapeutic intervention. The current study will seek to add to this research by outlining and implementing the use of questionnaire methodology focused on measuring aspects of the self in individuals diagnosed with BPD.

## Defining Self and Identity

Marcia (2006) has described the development of identity in individuals diagnosed with personality disorders, with special focus on BPD. He conceptualises identity within the framework of Erikson's (1963) developmental approach, describing a broad psychodynamic framework in which identity is understood as fourth in a developmental series of personality structures, including ego, self and superego. Marcia asserts that ego processes begin at birth

and involve the development and fulfilment of fundamental tasks such as defense, motor coordination, perception, memory, speech, reflection and personality organisation. The next process in this ongoing development is the development of "the self", which results from the "internalised and metabolised" interactions between self and other. It is out of these self–other interactions that the self begins to take shape: it is based upon relationships whose representations must be internalised because of the anxiety triggered by the absence of attachment figures in close proximity (Marcia 2006). This conceptualisation of the self would appear highly relevant to individuals with BPD, who typically experience significant difficulties within relationships (Linehan, 1993). The development of identity is argued to occur much later in adolescence, is externally oriented, and is intimately related to contemporary culture, society and ideals (also Jorgensen, 2006). In contrast to the DSM-IV criteria, which uses the terms "identity" and "self" interchangeably, Marcia argues that they are related but distinct, and do not have equivalent roles in the development of personality disorder. It is subsequently argued that for adults with BPD, a secure sense of self is a necessary element for the development of a coherent identity, with observed "Identity disturbance" or "identity diffusion" being the surface level of a problem that has much earlier developmental roots. From the literature, it is reasonable to consider that identity is an over-arching, multi-functional structure of which self is a key component (Marcia 2006; Bradley & Westen, 2005). In order to investigate sense of self for people with BPD, the present study utilises a questionnaire containing dimensions that represent aspects of how individuals see themselves and relate to others. It is expected that in order to complete this individuals will be required to refer to internalised representations of relationships, thus accessing the basis for sense of self, as defined by Marcia (2006).

**Problems with Self in BPD: Splitting and Lack of Integration**

Problems with the self have an early developmental starting-point, and specifically are noted to involve the failure of individuals to develop sophisticated alternatives to primitive defence mechanisms (Jorgensen, 2006). There are many factors in the lives of BPD patients that may have contributed to this failure, such as early experiences of trauma; attachment difficulties; invalidating social environments in which individuals do not learn to trust their views of self (Linehan 1993); or their inability to "mentalise" (Bateman & Fonagy, 2004). Particular attention is paid to the use of splitting as a defense mechanism (Kernberg 1984): the inability to integrate positive and negative representations of the self (and of others). Splitting allows individuals with BPD to maintain extreme inconsistencies in views of self and others, so that

integration and a coherent view of self is inhibited from developing. View of self therefore constantly shifts between extremes (eg. “I am a victim” and “I am a vicitimiser”) and a feeling of inner emptiness persists (Kernberg, 1984; Wilkinson-Ryan & Westen; 2000). Livesley (1998, 2000, 2006) describes this failure to integrate representations of self and others as a failure of one of three major life tasks that underlie all personality disorders, and describes individuals with BPD as lacking a fully developed “agenetic sense of self”. The role of splitting is therefore highly significant. Continued fragmentation of information about self means individuals with BPD do not achieve an integrated and coherent self structure to which they can refer to make sense of their experiences, emotions, internal values, and others' perceptions (Clarkin et al 2007). They cannot commit themselves to the world, other people, or long term goals (Jorgensen 2006), and they lack a “self-narrative” to bring together past, present and future (Bradley & Westen, 2005). It is possible that one way in which this fragmented sense of self may be reflected in individuals with BPD is that they may be more likely to endorse items relating to themselves with more extreme ratings on a questionnaire, when compared with individuals with no personality disorder. The present study will seek to explore this hypothesis and consider whether it is feasible to measure fragmentation of self using these methods.

Lack of integrated self is proposed to be one of the reasons why people with BPD consistently struggle to problem solve and establish reciprocating relationships (DiMaggio et al 2006). One can begin to understand that an inability to integrate information about self from interactions with others has the potential to be a huge source of vulnerability for people with BPD. Their position in interactions with others is weakened, whereas others may hold a powerful role in determining the view of self held by the person with BPD at any one moment. In this respect the degree of agency individuals with BPD have in creating their sense of self appears to be compromised. In connection with this, role absorption has been identified as being an important factor in BPD (Wilkinson-Ryan & Westen, 2000); referring to the tendency of individuals diagnosed with BPD to define themselves in terms of a specific role, cause, group or label. The present study predicts that individuals with BPD will be more influenced by the views of others when constructing their sense of self. For this reason, individuals will be asked to complete the questionnaire in this study twice, once from their own perspective and then from what they believe to be the perspective of a significant other. It is expected that individuals with BPD will show less discrepancy in these ratings than individuals with no personality disorder.

**Aims and Hypotheses:**

**Aims:**

- To investigate self agency in individuals diagnosed with BPD in creating their sense of self in comparison to people with no personality disorder (individuals diagnosed with anxiety and affective disorders and a control group of individuals with no mental health difficulties).
- To investigate the extent to which representations of self are integrated in individuals diagnosed with BPD, in comparison to people with no personality disorder (individuals diagnosed with anxiety and affective disorders and a control group of individuals with no mental health difficulties).

**Hypotheses & Predictions**:

1. Individuals with BPD will be more likely to construct sense of self from representations of others' views, than individuals with anxiety and affective disorders and those with no mental health difficulties.

   It is therefore predicted that individuals with BPD will have less discrepancy between their ratings of self and their ratings of how others see them on the Who Are You? Questionnaire, when compared to individuals with anxiety and affective disorders, and those with no mental health difficulties.

2. Individuals with BPD will possess a less integrated sense of self than individuals with anxiety disorders and affective disorders, and those with no mental health difficulties.

   It is therefore predicted that individuals with BPD will be more likely to endorse relevant items relating to the self with extreme ratings on the Who Are You? Questionnaire, than individuals with anxiety disorders and affective disorders and those with no mental health difficulties.

**Research Questions:**

- How do individuals with BPD rate self on the Who Are You? Questionnaire in comparison to individuals with anxiety and affective disorders and those with no mental health difficulties?
- Do individuals with BPD have less discrepancy between their ratings of self and their ratings of how others see them on the Who Are You? Questionnaire when compared to individuals with anxiety and affective disorders and those with no mental health difficulties?
- Do individuals with BPD have less integrated sense of self and are more likely to endorse items relating to self with extreme ratings on the Who Are You? Questionnaire in comparison to individuals with anxiety disorders and affective disorders and those with no mental health difficulties?

## PLAN OF INVESTIGATION

### Participants

Past research has found that it can sometimes be difficult to distinguish individuals with BPD from those with Depression. In order to gain a good understanding of self in BPD it is worth considering whether problems with self are specific to BPD, as the research suggests. In addition, individuals with BPD and the clinicians who work with them report experiences of high levels of anxiety for this diagnosis, particular in relation to interpersonal domains. This study will therefore undertake to include individuals with anxiety disorders in order to explore whether self in BPD is a problem distinct from being highly anxious about relationships.

The study will therefore recruit participants for three groups: adults with a diagnosis of BPD; adults with diagnoses of anxiety and affective disorders, and age and education-matched adults with no known history of mental health problems.

### Inclusion and Exclusion Criteria

The inclusion criteria for patient participants include:

- A diagnosis of BPD, or probable or major Depressive Disorder using DSM-IV criteria; or of an Anxiety Disorder (Generalised Anxiety Disorder; Social Anxiety; Panic Disorder).
- Eighteen years of age and over

- Proficiency in the English language.
- Ability to provide informed consent
- Inclusion criteria for the control group are that they are over eighteen years of age; are proficient in the English language; can give informed consent; and have no known history of mental health difficulties.

**Recruitment Procedures**

Individuals with BPD, Depression or Anxiety will be recruited from outpatient clinics based in community mental health teams or equivalent services, e.g. adult psychological services. Individuals with no known history of mental health difficulties will be age and education matched to the patient groups and recruited from the community and from non academic Health Service staff.

Patient participants will be recruited by contacting managers of mental health services and clinicians in writing to inform them of the study and to provide them with a copy of the research protocol. Written notification will be followed up by a telephone call and a presentation of the study proposal will be given to clinicians if helpful or if requested. Relevant clinicians will be invited to review their caseloads to identify individuals who may be eligible to participate in the study. Clinicians will be invited to give details of potentially eligible patients to administrative staff, who will be provided with information packs by the researcher. Potential participants will then be sent information about the study by letter through their clinical services administration. Patients who are interested in taking part in the study can then contact the researcher directly (using contact details provided on the information sheet) or can be contacted by the researcher. Following contact being made a date for a meeting can be arranged so that participants can consider informed consent for the study and if given can commence participation.

**Measures:**

**Beck Depression Inventory (BDI-II)**

The Beck Depression Inventory II (1996) is a 21 item self report questionnaire measuring severity of depression. It is one of the most widely used measures for mood disorders and has been validated extensively (Fernandez-Ballesteros, 2003). It will be used to measure

mood for all participants to allow for comparisons between groups.

**Beck Anxiety Inventory (BAI)**

The Beck Anxiety Inventory (1988) is a 21 item self report questionnaire measuring severity of anxiety for somatic and subjective anxiety symptoms. It has high internal consistency (□ = 0.92) and test-retest reliability (□ = 0.75 for a one week interval). (Fernandez – Ballesteros 2003). It will be used to compare levels of anxiety between groups.

**Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) (1997)**

The SCID-II is a semi-structured interview designed to provide assessment of Axis II disorders. Various studies have examined reliability of the SCID-II, finding that it has good inter-rater reliability (median kappa = .94) and modest test-retest reliability (median kappa = 0.62) (Rogers 2001). Studies examining the validity of the SCID-II are more varied, with studies comparing the SCID-II to the Millon Clinical Multiaxial Inventory and the Wisconsin Personality Disorders Inventory finding modest construct validity for the SCID-II (median kappa = .25; median r = .27). The SCID-II will be used to confirm the diagnosis of individuals in the BPD and anxiety and affective disorders group.

**Wechsler Test of Adult Reading (WTAR)**

The Wechsler Test of Adult Reading (2001) provides an estimate of intellectual functioning prior to the onset of illness or injury and is a moderate indicator of education level. The assessment has been validated for use, having high internal consistency (coefficients range from .87 to.95) in UK samples (Strauss et al, 2006). It will be used to ensure that the control group are matched on education level to the patient groups. It will also offer an indication of participants' ability to cope with the cognitive demand of completing the questionnaire.

**Who Are You? Questionnaire**

The Who Are You? Questionnaire (Obonsawin, Davidson & Carlisle; presented at BIGSPD 2007) was designed to investigate identity disturbance in BPD and has been piloted in two

previous unpublished studies. In this study it will be used to measure self agency in BPD using discrepancy scores between self and other ratings. Patterns of endorsement of items will also be examined where there are significant differences between participant groups in order to investigate whether endorsement of extreme ratings is indicative of fragmentation of self in participants with BPD. (PLEASE SEE APPENDIX A)

**Design:** The study will utilise a between-groups questionnaire design**.**

**Research Procedures**

Once participants have provided informed consent via the information sheet, the SCID-II will be completed with participants, along with the BDI and BAI. The WTAR will also be completed with participants prior to them being asked to complete the Who Are You? Questionnaire.

The Who Are You? Questionnaire will be the main focus of the study. This will require participants to use a pen to indicate the extent to which they believe a selection of descriptive words relating to the self are relevant to them. This measure will utilise an ordinal scale on which values range from '1' – "Not like me" to '5' – "Like me". Participants will then be requested to rate how they arrived at their decisions after each block of descriptive words by indicating the extent to which they agree or disagree with two statements relating to agency. Participants will be asked to repeat this procedure from the perspective of their parent or primary care giver. The difference between self rating and rating from the anticipated perspective of another will form the basis of the discrepancy scores. Extremity of ratings for questionnaire items will be used to indicate a measure of fragmentation of self on items where there are significant differences between participants groups. Once participants have completed the questionnaire they will be thanked for their cooperation and offered an opportunity to ask any questions.

**Justification of Sample Size**

As no previous published studies are available using a similar methodology to investigate sense of self, a compromise power analysis for a one way ANOVA was carried out using the

program G Power version 3.0.1. This was set to find a large (0.40) effect size (f), α error=0.05 and power of 0.8 (β-1) (Faul et al. 2007). From this, the total sample size for the study should be a minimum of 39 participants, therefore 13 per group. A 0.40 effect size was selected because a previous unpublished study (Espie, Davidson, Obonsawin, Masson & Carlisle; presented at BIGSPD 2009) with 15 participants per group yielded an average effect size of 0.47 when comparing differences between groups of participants diagnosed with BPD and those with depression on questionnaire dimensions. The current study will aim to recruit 15 participants for each group and all eligible individuals within participating NHS services will be contacted regarding the study.

**Settings and Equipment**

Testing sessions with participants will be conducted in rooms in health centres, clinics or at a place convenient to the participant. Equipment required will consist of stationary for completing questionnaires and a dictaphone for recording the WTAR assessment responses.

**Data Analysis**

Analysis of data will be carried out using SPSS for Windows. Descriptive statistics will be presented and data will be checked for normality and homogeneity of variance. If data is normally distributed then ANOVA will be used to compare discrepancy scores (between self and anticipated other ratings) for participant groups on questionnaire dimensions. If the ANOVA indicates a significant difference between groups then planned contrasts will be used to examine expected differences between the patient participant groups (BPD and anxiety and depression) and the control group with no mental health difficulties. Another planned contrast will examine differences between the BPD group and the anxiety and affective disorders group. If data is not normally distributed then the Kruskal–Wallis non parametric test will be used. Fragmentation of self as indicated by extreme endorsement of items will be analysed by Chi Squared Cross Tabulation, comparing the frequency of endorsement of extreme ratings (1 or 5) on questionnaire dimensions between groups.

Data from the BDI, BAI, WTAR and the SCID-II will be analysed using ANOVAs in order to investigate differences between independent participant groups.

**Health and Safety Issues:**

**Researcher and Participant Safety Issues**

Meetings with participants will be conducted within public areas during day time hours. It is expected that these meetings will take place at clinical outpatient sites. Secretarial staff at the researcher's administration base will be informed of the researcher's location during research interviews, as part of their duties in holding the researcher's weekly schedule of appointments. Any issues of concern will be discussed with the research supervisor.

**Ethical Issues (including where submissions will be made):**

Ethical approval for the study will be sought from NHS Lanarkshire and possibly from NHS Greater Glasgow and Clyde ethics committees if additional participants are required to be recruited. With regards to completing the measures, it is possible that rating items relating to the self has the potential to be a source of upset for individuals who are hypothesised to have difficulties in this aspect. The researcher is a Trainee Clinical Psychologist and will be able to provide advice and support should this occur. In order to further protect participants they will be informed verbally and in writing at the start of the study of the limits of confidentiality, including outlining circumstances under which confidentiality would require to be broken. If participants report any issues relating to risk to their safety or that of another during the SCID interview or during questionnaire completion then this information will be passed to their General Practitioner, or to a preferred clinician of the participant's choosing, so that immediate support for the individual can be sought. Participation (or withdrawal) from the study will not affect participants' access to treatment in any way and information gathered from the questionnaires will not be shared with any other health care professionals involved in their care (except with regards to limits to confidentiality discussed above). Clinicians who are asked to identify patients eligible for the study will not be informed of who consented to participate. Patients who are contacted to participate in the study will be informed in writing that clinicians involved in their care will not be informed of their decision regarding participation, with the aim of eliminating any experiences of coercion for potential participants. Information packs sent to eligible patients will be from the researcher and not from clinicians involved in patients' care and treatment.

Completed questionnaires will be kept in a locked filing cabinet and any data stored electronically will be kept in accordance with the Data Protection Act and NHS Lanarkshire

data protection procedures. Identifying information gathered during the study (participant's name and G.P.'s name and address) will be destroyed by shredding once data analysis is completed.

**Financial Issues (Equipment costs, travel etc):**

Predicted costs include paper for letters, information sheets and questionnaires. Envelopes and stamps will be required for posting, and standardised questionnaires and test forms will require to be purchased. Application will be made to have the travel expenses of participants refunded. The researcher will travel by car to health centres in order to conduct research sessions with participants. Please see attached costs form for more detailed information (APPENDIX C)

**Timetable**

August 2009: Application for ethics approval

October 2009 – January 2010: Recruitment and data collection

February /March 2010: Data Analysis

April– July 2010: Write up of research

**Practical Applications**

The interpersonal difficulties experienced by those diagnosed with BPD often present challenges to therapists seeking to engage and maintain individuals in psychological therapy. Research investigating possible underlying causes of relationship difficulties will help inform therapy and help clinicians organise therapy in a manner that addresses these problems. For example, if fragmented self image is a problem for those diagnosed with BPD, offering therapy that includes helping individuals to integrate extreme views of self and develop a coherent self narrative may have the potential to promote long term recovery. This research also has the potential to help clarify the relationship between self and affect regulation in BPD. Research on self and personality disorder also has the potential to raise awareness of the difficulties experienced by those with BPD; to increase understanding and to reduce the blame culture that currently exists within health services in response to personality disorders.

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# Chapter 3

*Advanced Clinical Practice I Reflective Critical Account*

# From Feeling Defeat to Holding Hope: A Challenge to Adult Mental Health Services

**(ABSTRACT ONLY)**

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***ABSTRACT***

Research evidence and the personal accounts of survivors of complex mental health problems highlight the key role of hope in the recovery journey. It is suggested that patients' beliefs in hope are vitally important, but the need for mental health professionals to hold hope and positive attitudes is perhaps even more crucial. This reflective account utilises Gibbs' model of reflection (1988) to consider experiences with patients, other professionals and the adult mental health system, and the pervasive sense of feeling defeated and hopeless which accompany these experiences. I document my own responses to hopelessness, how these have been unhelpful to both patients and I, and what I have learned about how to change these in order to practice ethically and maintain professional standards. I also reflect upon how the wider system of adult mental health services appears to respond to feeling defeated, with particular attention paid to persecutory responses to hopelessness, and what it might take for these to change. Finally, I reflect on my reflections, considering the advantages and disadvantages of reflective practice.

# Chapter 4

*Advanced Clinical Practice II Reflective Critical Account*

# Consultation and the Back Seat Driver

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***ABSTRACT***

Working almost exclusively using a consultancy model can be a strange and disconcerting experience, especially when it appears to change the emotional atmosphere of professional practice. Given the increasing use of consultancy models in clinical psychology, and an increased expectation that clinical psychologists will work in this way, it seems important to consider the following: whether consultation actually works, who it works for, and whether it offers fulfilment in the clinical psychologist role. This account reflects on these issues from a personal perspective, and considers their meaning for service delivery in the wider context of clinical psychology as a profession.