AGREEMENT, DISAGREEMENT, AND LIFE: PREDICTING OUTCOMES OF BORDERLINE PERSONALITY USING SELF AND INFORMANT REPORT

A Dissertation

by

EVAN LOEHLE-CONGER

Submitted to the Office of Graduate and Professional Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Chair of Committee,	Steve Balsis
Committee Members,	William Rae
	John Edens
	Rebecca J. Schlegel
Head of Department,	Heather Lench

May 2017

Major Subject: Clinical Psychology

ABSTRACT

Borderline Personality Disorder (BPD) impacts multiple functional life outcomes, but assessment may be difficult due to distortions in reports arising from the disorder itself. The use of adjunct informant reports shows promise in circumventing the barriers to self-report. Self and informant agreement has typically been low, but positive. I hypothesized this may be due to differences in perspective and available information. In this study, I used classic and novel statistical approaches to analyze agreement between self- and informant-reported BPD features in a community sample of individuals 55-64 years of age recruited as part of the St. Louis Personality and Aging Network. 1,387 participants were included in the final analyses. Optimal methods for combining self- and informant-report are explored in the prediction of clinically-relevant life outcomes. Self-reports and informant-reports were found to show limited, but positive, agreement in the endorsement of BPD criteria and diagnosis. Both reporters' criteria endorsements were significantly associated with a similar number of relevant life outcomes, but had relatively low overlap (Mean overlap rate = 16%) in which outcomes were associated with any given criterion across both report types. These findings suggest that both self- and informant-reports provide incremental utility in the assessment of BPD features and appear to offer different information about those features.

DEDICATION

To my father, Bruce, for supporting me without letting me off the hook. I miss you and wish you could have been around to see me finally finish what I set off to achieve almost a decade ago.

To my mother, Judy, for supporting me when I needed it.

To my advisor, Dr. Steve Balsis, without whose willingness to take a chance on me, I wouldn't be here and without whose guidance this document wouldn't be as good.

To my committee, without whom I would have nothing to show for four years of school.

CONTRIBUTORS AND FUNDING SOURCES

Contributors

This work was supported by a dissertation committee consisting of Professor Steve Balsis, John Edens, and Rebecca J. Schlegel of the Department of Psychology and Professor William Rae of the Department of Counseling.

The data analyzed for Chapter VIII was provided by Professor Thomas F. Oltmanns of the Department of Psychology of Washington University in St. Louis, St. Louis, MO.

All other work conducted for the dissertation was completed by the student independently.

Funding Sources

Graduate study was supported by a fellowship from Texas A&M University.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER I

BORDERLINE PERSONALITY DISORDER AND CLINICALLY-RELEVANT OUTCOMES

Borderline Personality Disorder (BPD) is associated with a range of dysfunctional life outcomes that can negatively affect overall quality of life (American Psychiatric Association, 2013). These dysfunctional outcomes include interpersonal, legal, financial, employment, physical and mental health issues. Many such outcomes are concrete and specific manifestations of BPD criteria (e.g. divorce as a manifestation of unstable interpersonal relationships or substance abuse as a manifestation of impulsivity). Others are the consequences of pathological behavior (e.g. higher rates of unemployment due to impulsive behaviors (Sio, Chanen, Killackey, & Gleeson, 2011)). The specific mechanisms of action that produce these outcomes are of particular interest to clinicians and researchers looking to refine models of BPD etiology. Below, I review functional domains of interest and examples of associated outcomes that have been or may reasonably be expected to be affected by BPD features.

Life Outcomes Affected by BPD Features

Mental Health

In addition to the dysfunction associated with BPD itself, BPD is often found with a variety of complex, comorbid psychiatric conditions (Grant et al, 2008). Depression, anxiety disorders, and PTSD all appear with greater frequency in individuals with BPD than in community samples (Zanarini et al, 1998; Skodol et al, 1999; Zimmerman & Mattia, 1999;

Trull et al, 2000). BPD may also exacerbate the symptoms of comorbid disorders. For example, individuals with BPD report more painful experiences of depressive features (Levy, Edell, & McGlashan, 2007; Silk, 2010; Zanarini et al., 1998).

The presence of BPD alongside other disordered features has a notably adverse effect on overall psychological wellbeing. Psychiatric presentations with comorbid BPD are distinct from disorders without BPD in a few respects. Firstly, BPD predicts poorer treatment outcomes for comorbid disorders (Levenson et al, 2012). The instability, impulsivity, and fraught interpersonal interactions both in and out of a clinical setting all appear to act as barriers to treatment efficacy (Bodner et al, 2015; Tetley et al, 2012). Secondly, patients with BPD are more difficult to manage in inpatient settings with such patients being more prone to self-harm, requiring restraint, and STAT medication administration (medication requiring immediate administration such as sedatives to manage behavior) (Leontieva & Gregory, 2013).

Two correlates of BPD bear special consideration: suicide and self-harm. Individuals with BPD are at particular risk of suicide with estimates of mortality from suicide reaching up to 50 times higher than found in the general population (Oldham, 2006). Less lethal self-harm and suicidal behaviors are also found at a higher rate in BPD populations. Prior research has found that frequent, though less severe, suicide attempts were positively associated with core BPD features such as impulsivity, antisocial traits (such as paranoid ideation and negative beliefs about others), and anger dysregulation or aggression (Martino et al, 2015). Deliberate self-harm behaviors without suicidal intent also occur at elevated rates in BPD populations (Hirschfeld & Davidson 1988; Lieb et al, 2004). Additionally, self-harm behaviors without suicidal intent are also not only more frequent in BPD patients, but are

also more often of such severity as to require transfer to medical units (Leontieva & Gregory, 2013; Soloff et al., 2005).

Social Difficulties

Of the life outcomes associated with BPD, interpersonal chaos and intense, dramatic relationships are perhaps the most iconic. Nearly all BPD features can contribute to social dysfunction. The strained interactions and often contradictory behaviors of individuals with BPD, such as cycling between approach and avoidance behaviors (Holmes, 2004), stand as notably disruptive and salient features of the disorder. Whether their distrusting nature, their impulsive choices (such as binge shopping or sexual promiscuity), their disproportionately intense angry outbursts, or their overall emotional instability, BPD features can be difficult for others to handle. Individuals with BPD have fewer committed relationships and generally report lower quality, less satisfying relationships (Winograd, Cohen, & Chen, 2008). Individuals with BPD are more likely to have been divorced (Pfohl, Stangl, & Zimmerman, 1984), to have experienced more break-ups of romantic relationships (Labonte & Paris, 1993), and are less likely to be married (Grant et al, 2008). Individuals with BPD diagnoses have relationships that are more likely to include violence across the spectrum of severity (Newhill, Eack, & Mulvey, 2009; Whisman & Schonbrun, 2009). This aspect of their romantic maladjustment is particularly important given that BPD is disproportionately represented in individuals arrested for domestic abuse (Sansone & Sansone, 2009) and in victims of domestic abuse (Sansone, Reddington, Sky, & Wiederman, 2007). Additionally, individuals with BPD often show impulsive sexual behavior. Their risky sexual behaviors are reflected in having a higher number of sexual partners and a greater likelihood of having contracted an STD than individuals without BPD (Sansone, Chu, & Wiederman, 2011;

Harned et al, 2011).

The family life of individuals with BPD often suffers as well. Individuals with BPD are more likely to use problematic parenting behaviors, such as providing insufficient child supervision or inconsistent discipline (Johnson et al., 2006), and are more likely to have their children removed from their homes (Jovev & Jackson, 2006). Children with BPD parents were also at a greater risk for conduct problems and for developing BPD themselves (Dutton, Denny-Keys, & Sells, 2011).

Employment and Financial Impairment

Individuals with BPD are more likely to have difficulties with employment (Sansone, Leung, & Wiederman, 2012; Skodol et al, 2005) and finances (Runeson & Beskow, 1991; Jovev & Jackson, 2006) than individuals without BPD. Individuals with BPD may be hampered vocationally by impulsivity, instability, difficulty working independently, and indecisiveness (Beck & Freeman, 1990). They are also more likely to lose a job on purpose (i.e. quitting or self-sabotage of their performance causing them to be fired) (Sansone & Wiederman, 2013), underperform (Pope Jr. et al, 1983), and find themselves in significant debt (Runeson & Beskow, 1991). Because of these issues, individuals with BPD are more likely to be unemployed, fired, or have unreliable or "under the table" employment (Sansone et al, 2012; Sansone & Sansone, 2012). This often leaves individuals with BPD in a lower socioeconomic status (SES) (Grant et al, 2008) which can limit their access to treatment and other services (Santiago, Kaltman, & Miranda, 2013; Raiz, 2006), limiting their ability to break the cycle of disruptive BPD features and financial instability.

Legal and Criminal

BPD is also associated with criminal charges and other legal problems (Jovev & Jackson, 2006; Sansone & Sansone, 2009). The symptoms of BPD may interfere with an individual's self-restraint in ways that lead to breaking the law. For example, uncontrolled outbursts of intense anger can lead to violence. Impulsivity can make crimes of opportunity harder to resist or make it difficult to abide by court rulings. Paranoia and unstable relationships can lead to vindictive actions such as petty vandalism. These and related issues make individuals with BPD disproportionately represented in inmate populations compared to individuals without BPD (Sansone & Sansone, 2009). In fact, BPD has often been studied with a specific focus on inmate populations, recidivism, and criminal behaviors (Pondé, Caron, Mendonça, Freire, & Moreau, 2014; Ruiz-Hernández, García-Jiménez, Llor-Esteban, B., & Godoy-Fernández, 2015; Trestman, Ford, Zhang, & Wiesbrock, 2007; Black, & Fossey, 2010; Jordan, Schlenger, Fairbank, & Caddell, 1996; Mahmood, 2012; Saradjian, Murphy, & McVey, 2013).

Substance Abuse

Substance abuse has a high rate of co-occurrence with BPD (Akiskal et al, 1985; Akiskal, 1994; Dolan-Sewell, Krueger, & Shea, 2001; Oldham et al, 1995; Shea et al, 2004; Skodol, Oldham, & Gallaher, 1999; Trull et al, 2000; Tyrer, Gunderson, Lyons, & Tohen, 1997). Similar to the distinction between other mental disorders and disorders with comorbid BPD, substance abuse with comorbid BPD is often more severe than substance abuse alone. The substance abuse with comorbid BPD has been associated with increased severity of suicidality (Yen et al, 2003), less improvement in BPD symptoms over time (Zanarini et al, 2004), and a greater likelihood of engaging in higher-risk substance use behaviors such as

needle-sharing, overdosing, and injection-related health issues like infection (Darke et al, 2005). With as many as half of BPD patients fulfilling criteria for comorbid alcohol or substance abuse disorders (Grilo et al, 1997; Links et al, 1995; Zanarini et al, 1998; Zanarini et al, 2004), this makes substance use a particularly pertinent factor in developing a useful clinical picture of BPD patients.

BPD also complicates recovery from substance abuse. The presence of BPD features predicts greater treatment dropout (Preti et al, 2015) and individuals with BPD are more likely to relapse even if their overall psychological health has improved (Walter et al, 2009). The combination of instability and dysfunction that typically accompanies addiction, even without comorbid mental health issues, and its disruptive impact on treatment for individuals with BPD strongly suggests that exploring the relationship between BPD features and substance abuse is of particular value in planning interventions and understanding the etiology of these commonly linked disorders.

Health

BPD intersects with health care above and beyond treating the damage caused by self-harm and suicidal behaviors or rehabilitation programs for substance abuse. Individuals with BPD show greater rates of medical disability (Grant et al, 2008; Østby, 2014) and a range of health problems (Grant et al, 2008). The presence of BPD features is positively correlated with heart disease, arthritis, and obesity (Powers & Oltmanns, 2013). Individuals with BPD tend to report more health complications, such as chronic pain (Sansone & Sansone, 2007), heart disease, arthritis, and obesity (Powers & Oltmanns, 2013), and insomnia (Oltmanns, Weinstein, & Oltmanns, 2014). They may also report greater intensity of health symptoms (Biskin, Frankenburg, Fitzmaurice, & Zanarini, 2014) and show more

sustained use of painkillers to manage their symptoms (Frankenburg, Fitzmaurice, & Zanarini, 2014). As a whole, BPD has sufficiently negative and commonly occurring effects on physical health and on responses to medical treatment as to warrant special consideration when conceptualizing an individual with BPD's clinical picture and likely life course.

Impact of BPD

BPD has many routes through which it may affect the functioning and overall quality of the lives of individuals with BPD features. Whether the effects of BPD are immediate, as they are with suicidal behaviors, or indirect, as when they affect on-the-job performance, the impact of BPD is felt throughout a broad range of life domains. Disruptive BPD features and their relationship with life outcomes deserve more in-depth research, something the literature has only recently begun to explore, but detailed research also forces confrontation with a perennial challenge of BPD assessment. I hypothesized that BPD criteria vary in their predictive power with more globally disruptive criteria and criteria more directly related to a life outcome's functional domain being more predictive.

CHAPTER II

BARRIERS TO ASSESSMENT IN BORDERLINE PERSONALITY DISORDER

The self-report of personality and psychopathological features provides access to intimate, otherwise unvocalized thoughts and feelings of an assessment target, but is also limited by those same thoughts and feelings. The self has access to internal states and other unique information not available to others, but it is also more vulnerable to being influenced and distorted by internal features. Although this can be problematic even when assessing normal personality individuals, the complexities and distortions of pathology magnifies many of the challenges of using self-report. In pathological personality features, such as those described by BPD, the difficulties are multiplied significantly due to the nature of the disorder itself.

BPD is a highly heterogeneous disorder that can be challenging to assess. The DSM-5 (American Psychiatric Association [APA], 2013) lists a series of behaviors and cognitions that define BPD. The nine core diagnostic criteria are: 1) Marked efforts to avoid real or imagined abandonment; 2) Unstable, intense relationships; 3) Persistent and significant self-image instability or unstable self-regard; 4) Potentially damaging impulsivity; 5) Suicidal behavior and self-harm; 6) Affective instability; 7) Chronic emptiness; 8) Intense anger or anger dyscontrol; 9) Occasional paranoid ideation or dissociation due to stress. These criteria reflect five personality domains: Identity, Cognitions, Affect, Self-Control, and Relationships. Not only do individuals with BPD have personality dysfunctions in these domains, but these dysfunctions may also hinder accurate self-reporting of BPD features. Below, I describe how dysfunction in these areas could reasonably be expected to impair

people's ability to report on their own personality given what is known about BPD symptomology.

Barriers to Assessment

Identity

Individuals with BPD are characterized by disturbances in their identity (per DSM-5; APA, 2013). These disturbances come in several forms. One form of identity disturbance is a *lack of self-knowledge*. Individuals with BPD often appear to have a poor understanding of their own identity (Linehan, 1993) and their own internal states (Bateman & Fonagy, 2003; Ebner-Priemer et al., 2008). They show a poor awareness of a variety of factors that contribute to self-concept, such as a limited awareness of their own personal goals and values, and a difficult time predicting their own behavior (Dammann et al., 2011).

Theorists and investigators have proposed various reasons for this lack of self-knowledge. Typically, these reasons include difficulties in the coherent integration of experiences and an inability to develop a framework to build broader self-understanding. Koenigsburg and colleagues (2001) suggested that difficulties with self-knowledge may arise from impairments in individuals with BPD's ability to create a moment-to-moment narrative. The individual with BPD's understanding of cause and effect regarding the associations between personality features and experience may be limited by this inconsistent narrative. Disconnection between personality factors and immediate experiences may be evident in the individual with BPD's misattribution of the cause of their distress. That is, individuals with BPD may disproportionately attribute blame to factors that may or may not be related to the underlying causes of the individual's distress. If an individual with BPD lacks access to an

overarching and consistent narrative, they would then lack a stable frame of reference within which they can develop an understanding of how their experiences are influenced by broad or long-term factors, most saliently their own personality features. Lacking such longitudinal and general factors, the individual's conceptual network of self-knowledge may be comparatively sparse.

An individual with BPD's lack of self-knowledge has implications for identifying BPD via self-report. Effective self-report fundamentally relies on self-knowledge. Essentially, the individual with BPD's deficits in self-knowledge places an upper limit on how much information can be collected through self-report. Simply put, individuals cannot provide information that they cannot access. For example, individuals with BPD who are unaware of their own impulsivity cannot report on impulsive personality features and individuals with BPD who are unaware of their beliefs about others cannot report on interpersonal personality features. Because they do not have access to accurate self-knowledge, individuals with BPD tend to provide shallow, superficial descriptions of themselves (Clarkin, Yeomans, & Kernberg, 2007; Dammann et al, 2011).

This impaired ability to recognize internal states may have consequences for measuring BPD using self-reports. Because individuals with BPD often don't recognize their own emotions and commonly lack confidence in their experiences, they may underreport certain emotional experiences. They may simply state that they do not know or are not sure about their own features and experiences (New et al., 2012). This can occur because they genuinely do not recognize certain emotional experiences or because they are uncertain about the experiences and emotions that they are able to recognize. For example, when asked if they have experienced feelings of emptiness, individuals with BPD could potentially state

that they do not know because they are unsure whether "emptiness" is an accurate description of how they feel. Furthermore, they may state that they don't know because they are unsure of what constitutes "often"—does it mean multiple times a day, a week, a month, or a year? In this way, individuals with BPD may not endorse this item due to difficulties recognizing the emotion or the intensity and frequency of the emotion. Instead, the target may endorse experiencing emptiness "occasionally" because they know they have felt what may be empty at least a few times. In binary measures of features (i.e. True/False questions), they may simply not endorse the item at all, which can lead to significant underreporting. Thus, underreporting can occur because individuals with BPD are uncertain about the details or distinctiveness of their emotions (e.g. emptiness, distrust) and/or the associated time span and intensity of these emotions.

In addition to suffering from deficits in emotion recognition, individuals with BPD have unstable identities. This instability manifests itself in a number of ways. One such manifestation of this is that individuals with BPD are often inconsistent in their descriptions of themselves (Clarkin, Yeomans, & Kernberg, 2007). They are sometimes described as social chameleons because they are often strongly influenced by the beliefs and values of those around them. For example, individuals with BPD could profess a deep faith when interacting with their religious community, but not profess the same intense faith during periods of less exposure to overtly religious peers.

Fruzzetti, Shenk, and Hoffman (2005) suggested that this instability of identity develops out of conflicting or unstable demands from caregivers. When similar behaviors elicit very different responses from a caregiver or when the demands made of the child are incompatible (e.g. "don't let anyone push you around" and "don't talk back"), it becomes

difficult for the child to form an understanding of expectations or to develop ways to usefully incorporate feedback. A child that is unable to develop a stable identity that allows them to meet the demands of their caregivers may lack a cohesive model of self because no identity persists long enough to explore more deeply. This begins a cycle of instability in identity and self-knowledge. Without a cohesive model of self, these individuals are unable to develop a stable sense of self that is capable of existing independently, leaving their identity subject to the input from others. This lack of a developed, independent identity may make Individuals with BPD vulnerable to outside influences as well as their own unstable affect. In turn, this makes developing a stable sense of self difficult as their identity continues to change as their social context changes. Whatever the source of their instability, individuals with BPD often have a sense of self that is prone to change.

Unstable identity may act as a barrier to valid self-report when individuals with BPD may lack a stable identity or sense of self on which to report. When an individual's "self" is underdeveloped or unstable (Clarkin, Yeomans, & Kernberg, 2007), his or her self-report is limited and unstable in turn. That is, the individual with BPD's changes in identity may influence how they interpret, and therefore how they report, their identity. For example, if an individual with BPD has been struggling with alcohol abuse, but has not recently binged, they could potentially view themselves as having no problem with alcoholism. The self-image reported may be one that describes a non-alcoholic individual even though the individual is aware that they have not always been this way. Their current identity becomes a lens through which they perceive their behaviors and experiences, past and present (Green & Sedikides, 2001).

Cognition

Individuals with BPD often have *distorted cognitions*. Specifically, they often make simplified judgments about people and situations. This type of thinking is also known as "splitting" (Kernberg, 1967). Splitting is the use of dichotomized ("all or nothing") judgments. Individuals with BPD features often show splitting in their perceptions of others. They often categorize people as being all good or all bad, though this belief can shift rapidly (Siegel, 2006). Splitting is thought to arise from deficits in integrating experiences. Horowitz (1977) described splitting as encoding good and bad experiences in separate schemas rather than in a mixed schema that more generally encompasses different types of experiences. This tendency to encode experiences into separate schemas may affect the way individuals with BPD perceive people and situations.

For individuals with BPD features, events and people may be seen as being in one or another category (as being good or bad, for example) based on passing a threshold of intensity rather than being perceived as existing along a spectrum. In this conceptualization, experiences or features that are subthreshold in intensity are likely to be minimized, dismissed, or simply go unnoticed. Conversely, experiences that meet threshold are likely to be seen as very severe. When the threshold is higher, otherwise meaningfully disruptive features may be misperceived as minor or even absent simply because they are not sufficiently severe. Self-perceptions are not exempt from these distortions of perception and judgment. For example, an individual with BPD who is rejected by a romantic partner could potentially then see themselves as generally unlovable and terrible rather than attributing the rejection to causes that may be seen as "subthreshold" (e.g. the inconvenience of a long-distance relationship). This simplification of self-perception may lead individuals with BPD

to have difficulty in producing nuanced information about themselves.

This tendency to evaluate people and situations based on thresholds may have developed as a way to survive situations where intense, simplistic decisions were required to accommodate changing expectations, while a nuanced understanding was less useful and possibly even counterproductive. Krystal (1988) has suggested that the creation of these "all good" and "all bad" schema may result from childhood trauma. When a child is abused by a caregiver, the child may develop schemas that allow him to receive nurturance from and simultaneously protect himself from the abusive caregiver. These conflicting needs drive incompatible perceptions of the caregiver as both threatening and necessary and reinforces switching between perceptions quickly. The abused child then develops schemas that permit the child's needs to be met, but at the cost of integrated perceptions of "good" and "bad".

Individuals with BPD may have difficulty perceiving their own and others' personality features because they rely on competing, mutually exclusive schemas to form judgments. In the competing schema model, the activation of one schema may interfere with the activation of other schemas. An already active schema may increase the amount of "evidence" necessary to contradict it (Edwards & Smith, 1996). Because individuals are predisposed to interpret experiences as congruent with active schemas (Tuckey & Brewer, 2003), alternate interpretations that contradict schema-congruent interpretations are seen as more "extraordinary" and therefore require more "proof" to accept. For example, individuals need a certain amount of evidence to believe that another person is "bad". If the individual with BPD already believes that the other is "bad", then the individual with BPD will require lots of additional information to refute the badness of that person. Thus, the competing schema model suggests the individual with BPD needs "sufficient counter-evidence" to

overcome active generally positive or generally negative attributions and accept an alternate attribution (Lord, Ross, & Lepper, 1979).

Benjamin and Friedrich (1991) suggested that activating even a small part of a schema may activate the entire schema. Schemas that exclusively contain only "all good" or "all bad" perspectives may be activated by a single aspect of an experience. In turn, the activated schema then determines how the person perceives the rest of the experience. For example, the individual could experience a small setback while on vacation that would in turn activate the "all bad" schema which then colors their experiences of the remainder of their vacation. Often the individual may experience distress as a result of the negative schema, but attribute the distress to an external factor (the minor setback) rather than to personality features (Peersen, Gudjonsson, & Sigurdsson, 2000). In matters of self-perception, these absolutist schemas may be difficult to overcome. When people have active schemas that are more nuanced and are capable of integrating both "good" and "bad" perspectives, which is not the case in BPD (Horowitz, 1977), then single experiences need not completely overturn attributional schemas. However, when active schemas are simplified, as is the case in BPD, new experiences may not be easy to integrate into active schemas. If so, the lack of integration of new experiences into existing schema would suggest that the individual's perceptions are likely to be simplified (as seen in splitting), resistant to counter-evidence, and potentially more prone to confirmation bias. Overall, this would limit the accuracy and validity of reports that reference the simplified schemas of an individual.

Overturning schema-influenced self-perceptions is difficult. People have a tendency to downplay self-relevant negative attributions compared to other-relevant negative attributions (Sedikides & Green, 2000). For individuals with BPD to attribute the cause of a

negative experience to themselves, an inordinate amount of evidence is required. This is because they must overcome a generally positive schema that arises from a self-serving bias (Larson, 1977). Doing so would mean that Individuals with BPD would need to overturn the view that they are "good", or the victim in the circumstance, and that other is "bad", or as the perpetrator in the circumstance. Individuals with BPD may find it difficult to imagine themselves or others as having good and bad features simultaneously. For example, it may be particularly challenging for individuals with BPD to cast themselves as the perpetrators in some situations because their own experience of distress is more in-line with how they perceive victimhood. It is important to note that a negative attribution can be defined as an attribution that contradicts an individual's self-image or extracts some cost. In normal personality, acknowledging one's own negative features is typically negative because they may then have to work to change those features or their perception of themselves as being generally "good". Individuals with BPD may engage with negative attributions differently as they may derive some value from seeing themselves as fulfilling a negative role. For example, accepting that they are "bad" allows an individual with BPD to place the blame on their "badness", thereby paradoxically working in their favor by reinforcing the simplified perceptions they are comfortable with and requiring little to no change in self-perception or behavior. Conversely, accepting a more nuanced attribution of causes, even attributions that may be seen as positive by others, would require taking on the responsibilities of agency and the burden of interacting with a complex world while removing whatever benefits they gain from playing out a simplified, negative role.

These categorical schemas in social perceptions may make it difficult to maintain relationships while also interfering with the individual's understanding of why their

relationships fail, including their own contributions to that failure. Individuals with BPD may apply splitting to their partners and begin to see them as all bad or all good, no matter how their partner behaves. Once the relationship fails, the BPD individual may attribute the demise of the relationship to the partner (either as a perpetrator or as being too good for the BPD individual) and assume that they are a blameless victim in the relationship or that the relationship's failure was inevitable. Even with a long history of failed relationships, the BPD individual may not become aware of their own culpability. Their own contribution to the failure of their relationships can typically only be seen if it those contributions are both obvious and extreme. But, with the end of the relationship, the BPD individual will often feel distress, see that feeling as fitting with the perspective that they are the victim, whether of their partner or of their own inalterable "badness", and with that schema firmly in place, fail to seek out alternative or more developed explanations for their distress and relationship failure.

Simplified cognitions and schemas may impair an individual with BPD's ability to provide accurate information via self-report by skewing or ignoring relevant details. For example, the BPD individual may not be able to provide information about lower levels of feature intensity, either because they have set their categorical threshold to a high level of severity or because they are experiencing a schema that prevents them from recognizing the presence of the personality feature. They may overlook information particularly when it is egosyntonic, or consistent with one's identify and emotional schema (Kernberg, 1984). For example, anger is often egosyntonic (Howells, 1998) and this may skew perceptions of intensity. "Reasonable" anger, for example anger at a perceived insult, may hypothetically not be viewed as an "intense outburst", but rather as an appropriate response to the situation.

When asked whether they have outbursts of intense anger, an individual with BPD may overlook a number of angry outbursts because they are seen as insufficiently intense to warrant endorsing "intense outbursts of anger" Similarly, the fact that the individual has had many failed relationships may not be reported because the individual does not see this as a problem or as being otherwise notable because it fits their worldview or has already been rationalized away. In this way, egosyntonic features may be overlooked at lower levels of intensity or frequency. The use of simplified and all-or-none perceptions in the place of nuanced judgments could potentially limit the BPD individual's likelihood of identifying lower-intensity BPD features.

Affect

BPD is characterized by distortions in emotional states (Linehan, 1993). One such disruption is a heightened *intensity* of affect. This intensity is demonstrable in frequent outbursts of extreme emotion. These outbursts can include intense anger, feelings of emptiness, and anxiety (Rosenthal et al., 2008). These intense feelings can bias perceptions (Henry et al., 2001) and lead to extreme behavioral responses, including self-harm (Brown, Comtois, & Linehan, 2002). Extreme affect, warped perceptions, and extreme behaviors may also feed into each other, further distorting the experiences of the BPD individual.

The intense emotions experienced by individuals with BPD may interfere with their ability to accurately report on their thoughts and situations. Individuals with BPD may be unlikely to report information regarding multiple emotions, particularly when they are currently experiencing a different emotion. For example, if an individual with BPD is experiencing extreme feelings of anger, he could potentially find it difficult to report on emotional states that are less prominent than his current anger, such as feelings of sorrow or

anxiety. At the same time, they also may not be able to acknowledge even prominent emotions (e.g. anger) to the same degree that an outside observer might because their anger is so intricately tied to their worldview and daily experiences. So, individuals with BPD that regularly feels angry may not recognize themselves as being an angry person because they assume the anger they feel is a reasonable response to their experiences. They may instead attribute their anger to another's behaviors in a way that is consistent with their worldview. So instead of seeing themselves as someone who is frequently angry, they may see themselves as someone who is frequently wronged by others. In fact, this may be particularly true with experiences of anger. Externalizing features such as anger have been found to correlate with an increased likelihood of attributing hostility to others (Wilkowski & Robinson, 2008). Responding with anger to what is perceived as a hostile situation is a largely egosyntonic response because the negative affect is attributed to an external cause in what appears to be a reasonable manner. In turn, the angry individual with BPD may be unable to report anger dyscontrol as a personality feature because their experiences of anger are seen as appropriate to the context and the result of external factors rather than as a result of their own personality.

Another disruption of affect shown in BPD is in the *instability* of the individual's affect (Trull et al., 2008) which manifests in a variety of ways. One way this instability is demonstrated is through frequent mood swings (Koenigsberg et al., 2002). Individuals with BPD often show great variability in mood over the course of a day. This emotional instability has been ascribed to a limited capacity for the self-regulation of affect, such as an inability to self-soothe (Linehan, 1993) because they lack stable internal source of soothing (Kohut, 1971). As a result, they have an urgent need for others to help regulate their distress

(Masterson, 1988).

This emotional instability (Koenigsberg et al., 2002) may create problems in the performance of individuals with BPD on self-report measures. Variability of affect may lead to inconsistent perceptions of reality. For example, an individual with BPD who is in a state of intense positive affect could potentially have difficulty reporting on problems in close relationships because they dismiss instances of interpersonal disturbance as irrelevant or attribute these instances to misunderstandings and misperceptions rather than as the chronic, distressing patterns of interactions that they might report during periods of negative affect. Even if a BPD individual is otherwise willing to report on these disturbances, the intensity of the individual's biased perceptions may distort or minimize experiences that contradict their current affect. The instability of this affect makes the distortion unpredictable over even relatively brief periods. Indeed, Thomas (1996) found that self-report measures of personality and psychopathology often significantly varied alongside mood in BPD patients. Both the intensity of their mood and the instability of their emotional states are features of BPD that may negatively influence the reliability of self-report for individuals with BPD.

The reactive component of affective instability in BPD may further complicate assessment via self-report for individuals with BPD' because these individuals may show significant emotional reactions to item content (Sansone & Sansone, 2010). Many individuals with BPD are highly emotionally reactive, responding strongly to emotional triggers (Koenigsberg et al., 2002). For example, even a minor inconvenience, such as a spouse forgetting to pick up milk at the store, could potentially set off an outburst of anger in the BPD individual. The emotional reactivity of individuals with BPD may manifest during assessment as a high reactivity to item content. Individuals with BPD may become distressed

when assessment involves unpleasant cognitions or emotions (Cheavens et al., 2005; Gratz et al., 2006; Rosenthal et al., 2005) such as those associated with stigmatized BPD personality features or unpleasant memories common in BPD (e.g. trauma, relationship issues, etc.). This sensitivity to item content may then skew perceptions or motives during self-report which in turn distorts item response.

Self-Control

BPD is associated with *reduced impulse control* (Koenigsberg et al, 2002), which can diminish the accuracy of self-reports. Research shows that individuals who are more impulsive often show superficial consideration of questions (Daruna & Barnes, 1993), which limits their reliability as reporters. For example, an individual with BPD could potentially be more likely to agree to activities that conflict with their existing schedule without considering whether they had prior obligations. It has been suggested that individuals with BPD are impulsive due to neurological deficits in the prefrontal lobe similar to the deficits found in individuals with other self-control issues (Soloff et al., 2003). Impulsivity can therefore be considered a chronic or persistent trait of individuals with BPD that is likely to influence their behavior across a variety of contexts with inconsistent or rash decisions (including self-harm) impairing their functioning. In the context of self-assessment, these self-control problems may impair an individual's ability to thoughtfully respond to questions about themselves.

Heightened emotional states paired with the desire to present a particular impression of themselves may also lead individuals with BPD to respond without carefully considering the appropriateness of the items. This tendency may be evident in the endorsement of items along lines such as those described in the Positive Impression (PIM or "Fake Good") or

Negative Impression (NIM or "Fake Bad") scales of the PAI (Morey, 2007). For example, individuals seeking help or sympathy may endorse items that reflect distress generally rather than considering whether an item reflects experiences of distress that fit the situation (e.g. a non-suicidal and non-self-harming respondent endorsing suicidal or self-harm related items).

Additionally, this lack of attention to item content may increase randomness in item endorsement. When questions are given only limited consideration, then both individual items and the scales they compose are less likely to shed light on the factors the answer is intended to measure. For example, an impulsive respondent who is unemployed may not endorse any items about "When I am at work" because he understands the question to mean his current experience with employment, which is that he is never at work, rather than his general work experiences during times of employment. Whether impulsivity contributes to a systematic bias or simply increases general inconsistency, the lack of self-control that is often present in individuals with BPD may adversely affect the accuracy and sensitivity of self-report

Relationships

Individuals with BPD form *unstable* relationships of *poor quality* with others (Clarkin, Yeomans, & Kernberg, 2007). This instability is evident in their romantic relationships (Clifton, Pilkonis, & McCarty, 2007), difficulties with employment (Skodol et al., 2002), and overall more negative social interactions (Stepp et al., 2009). A variety of factors appear to contribute to these interpersonal problems. Research has shown that individuals with BPD are highly reactive to others' emotions, but have difficulty describing and interpreting these emotions and often find perspective-taking difficult (New et al., 2012). Some suggest that the same problems that lead to difficulties in self-understanding

(changeable emotions, unstable self-concept, black and white thinking, etc.) also leave individuals with BPD unable to understand others (Bateman & Fonagy, 2003). Because individuals with BPD cannot understand and predict how others will act, they may have trouble trusting, cooperating, and accurately communicating with others.

The BPD individual's *lack of interpersonal understanding* and the resultant *failures in perspective-taking* may interfere with self-report because many BPD features involve significant interpersonal elements (e.g. unstable relationships, fear of abandonment, etc.). The BPD individual's lack of awareness or nuanced understanding of their relationships creates problems for self-report in much the same way that their lack of self-knowledge is a barrier to informative self-report: the individual cannot report what they do not know. For example, while those with BPD show intact "empathic concern", or personal distress in response to the distress of others, they show deficits in the ability to understand the source or nature of the distress (New et al., 2012), including their role in the distress. Even when interested and invested in others, individuals with BPD nonetheless may be unaware of or insufficiently understand the actual workings of the relationships in which they are involved. As a consequence, they be unable to meaningfully report on BPD features related to interpersonal dysfunction because they lack insight into their own contributions to the dysfunctionality of their relationships. So, while an individual with BPD may understand that his spouse is upset, he may be unable to distinguish between "angry" and "sad" as specific forms of "upset". Without these distinctions, understanding the source of another's feelings may be difficult. For example, an individual with BPD may perceive that his spouse is distressed after he takes the kids out for ice cream, but believe that she is angry for apparently no reason rather than realizing she is sad about being left out of a family function,

misunderstanding both the cause and form of her distress. Compounding the problems understanding the emotions of others, ironically, individuals with BPD display greater confidence in their interpretations of others' emotional states than individuals without BPD (Schilling et al., 2012). This misplaced confidence may make individuals with BPD resistant to feedback or evidence that contradicts their interpretations, information normally be used to enhance the accuracy and specificity of interpersonal perception (Carlson & Kenny, 2012).

Individuals with BPD also often display a *poor understanding of how they are perceived by others*. This deficit in perspective-taking leads to two notable problems. First, they do not know at what point perceptions of themselves diverge from the perceptions of others, and second, they are unaware of the nature of these divergences, such as perceptions of intensity or type. For example, an individual with BPD who takes pride in his parenting skills may not know whether others see him as a good father. If made aware that others were doubtful of his parenting skills, he may still be unaware of what behaviors were seen as problematic or the severity others attributed to those problems. As another example, an individual with BPD may be aware that she is occasionally sad, but may not be aware that others consider her to be severely depressed. The lack of a shared perception impairs the BPD individual's ability to see themselves through the eyes of others and therefore miss opportunities to reality test their own self-image. Without this external source of reality-testing, individuals with BPD may be limited in their ability to report on their emotions and traits accurately.

Individuals with BPD also often exhibit a marked *fear of abandonment* (DSM-5; American Psychiatric Association, 2013), which limits their willingness to disclose negative emotions or significant experiences to others. Because individuals with BPD have difficulty

understanding their own relationships and the emotions and behaviors of others and are particularly sensitive to negative emotional cues, they have a heightened fear that the disclosure of negative features will cause others to abandon them (Adler & Buie, 1979). These concerns have been described as the Need-Fear Dilemma. In this conceptualization, the BPD individual possesses both the desire to be nurtured and the fear that their own negative features will drive others away. For example, an individual with BPD may be unwilling to admit to feelings of jealousy regarding a romantic partner's friend because they fear that a display of such "clinginess" may drive their significant other away, while at the same time wanting their significant other to soothe their jealousy-driven distress.

The fear of abandonment complicates matters of assessment because individuals with BPD often believe that if their negative traits or behaviors are made known then they will be perceived as fundamentally bad by others (Beck, Freeman, & Davis, 2004). The BPD individual's fear of abandonment and their belief that revealing negative aspects of themselves leads to this same abandonment may interfere with honest disclosure of pathological personality features. Individuals with BPD may be motivated to underreport negative personality features due to fears that disclosure will negatively impact their relationships, including their relationship with researchers or healthcare professionals.

Another interpersonal factor associated with BPD that with potential to interfere with self-report is the *possession of negative beliefs* about the intent or harmfulness of others. Individuals with BPD often see others not only as prone to abandoning them, but as damaging and exploitative (Beck, Freeman, & Davis, 2004). This sense of threat can be seen in the BPD individual's experiences of paranoid ideation during periods of stress (Haaland & Landrø, 2009). For example, an individual with BPD going through a messy divorce may

perceive his friends as being on his ex-wife's side. He may suspect that his lawyer is colluding with his wife's lawyer to wring the maximum amount of fees from him. This fear of others has been assumed to arise from the BPD individual's overrepresentation of negative schemas for others that developed during childhood (Krystal, 1988).

The fact that individuals with BPD often perceive others as untrustworthy (Linehan, 1993) may impede accurate self-report regardless of whether the distrust arises from fear of abandonment or fear of harm. Individuals with BPD may be unwilling to share sensitive information (which includes most BPD features) and they may be particularly unwilling to share this information during times of heightened stress (such as during hospitalization) since stress tends to increase their paranoia (Zanarini, Gunderson, & Frankenburg, 1990). Instead, the BPD individual may become defensive when questioned and deny those feelings and experiences they feel are negative or believe could be used against them. When this occurs, the distrust that individuals with BPD have for others may reduce the likelihood that individuals with BPD will fully disclose negative BPD features.

CHAPTER III

THE INCREMENTAL UTILITY OF INFORMANT REPORT

Somewhat problematically, the assessment of BPD typically relies heavily on self-report. This may be a limiting factor in reliable, accurate assessment because individuals with BPD may not be able or willing to report on many of the key features of the disorder. BPD-related deficits in self-report may arise from many of the reasons outlined above, including distorted or limited self-knowledge, unstable psychological and interpersonal perceptions, uncertain personal and social awareness, inconsistent internalized values, poor quality relationships, lack of a coherent and realistic mental framework with which to understand this information, and a fear and distrust of others.

Informants (those who know individuals with BPD) may be in a position to report unique, and potentially more accurate or precise, information about a target's BPD features. In part, this is because informants do not have the same types of knowledge or perceptual deficits about the target as the target themselves. Rather, informants are able to gather and use observations about the target to develop a coherent cause and effect narrative in a manner that the target cannot. Though informants have their own barriers to providing accurate report, such as a lack of access to the target's internal state and the informant's own biases concerning the target, informants show promise as a way to bypass both deficits in an individual's self-knowledge and motivational barriers to forthright disclosure, thereby supplementing self- and clinician-report in assessment. It is important to note that the addition of informants in the prediction of clinically relevant outcomes can be seen as being concerned less with improving the "accuracy" of assessment in regards to the measurement

of "true" personality features and instead is primarily focused on examining and comparing the utility of self-report and informant-report.

Prior research has shown that informant data adds incremental validity to information acquired via self-report in the assessment of various personality disorders (Oltmanns, Turkheimer & Strauss, 1998; South, Oltmanns, & Turkheimer, 2003). Informant-report may be comparatively uncomplicated by many of the issues and distortions that affect reports by individuals with BPD and may tap alternate sources of relevant information that self-report does not reflect. I predicted that informants would be able to provide more information about the BPD continuum than targets and that they would be able to provide this information at relatively lower levels of BPD severity than targets. Below, I describe the potential assessment benefits that informant report may provide and posit possible factors contributing to these benefits.

Benefits of Informant-Report

Nuance and Detail

I proposed that informant-reports may be more nuanced or valid than those provided by targets. Informants may be able to produce more nuanced reports than targets because informants are more likely to use perspectives that allow them to identify positive, negative, and mixed features in the target where BPD targets are more prone to all-or-nothing perspectives. At the very least, informants may provide an alternative perspective that can be compared against the target's perceptions and interpretations. Agreement in self- and informant-report can be used to identify information about shared perspectives that are not directly influenced by the cognitive distortions specific to the disorder.

Stability and Reliability

Although informants do not have direct access to the target's internal perceptions or self-knowledge, informants are presumably less impaired by problems with the stability and certainty of self-perception. Informant reports may provide stable points of comparison with potentially inconsistent BPD self-reports. Although informants may have their own biases, these potential biases are not directly influenced by the same biases that arise from the instability of identity specific to the target. For example, an individual with BPD may report that they oppose drinking alcohol and that they abstain from drinking because they are currently sober. An informant who has seen the target alternate between heavy drinking and periods of sobriety would be less likely to report on the target's alcohol use based on the target's current, and possibly temporary, self-identification. Informants may therefore provide information about target features that include a big picture perspective that integrates disparate features across a broader time frame. Thus, informant-report may be relatively stable compared to self-report.

Another reason for this improved stability may be because informant-reports appear to better reflect the target's reputation (Hogan, Rybicki, & Borman, 1998), which can reflect both past and current behaviors that are comparatively stable. Relatedly, informant-reports are also unlikely to be as strongly influenced by brief distortions or changes in self-perception. Recent research shows that informants show greater consistency in their reports of targets than is observed in targets' self-reports (Balsis, Cooper, & Oltmanns, 2015). Essentially, informants may provide information about target features that include a big picture perspective that integrates disparate features across a broader timeframe. This greater breadth of perspective suggests that informant-reports may be relatively stable compared to

self-reports.

Informant-report may also be less likely to be influenced by emotional biases than are self-reports from individuals with BPD. There are a variety of reasons to suspect that this may be the case. For one, the general population is less prone to intense or variable affect compared to individuals with BPD (Santangelo et al., 2014; Santangelo, Bohus, & Ebner-Priemer, 2014). Two, informants may have less emotional investment in particular presentations of the target than do targets. That is, informants may be more willing and able to report on unflattering features of the target.

Informants may act as comparatively stable landmarks in the context of assessment because informant are less likely to experience the same degree of emotional turbulence as individuals with BPD (Santangelo et al., 2014; Santangelo et al, 2014). With less affective instability, informant reports may be more reliable over time and potentially less biased than self-reports. While BPD patients appear to self-report on their personality in ways which vary significantly dependent on mood, informants are largely uninfluenced by the BPD target's mood (Thomas, 1996). An informant may be able to report on the target's affect or other features without perceiving them through the same affective prism.

Informants are also less likely than individuals with BPD to have consistent impairments in their impulse control (Berlin & Rolls, 2004; Mortensen, Rasmussen, & Haberg, 2010). As described above, impulsivity can have significant effects on responses to measures (Daruna & Barnes, 1993). This reduces the reliability, precision, and accuracy of responses. Being comparatively patient, emotionally stable, and able to focus, informants may be better able to attend to item content than BDP individuals. This improved quality of motivated, focused, and less-superficial responses may enhance the quality of the report

overall by improving the depth of responses. That is, informants may not only have access to different sources of information, but they may also be more capable of and willing to draw more deeply from both their own and shared sources of information about the target by being more willing to attend in greater detail to item content and consider their responses for longer and with more nuance.

New Information

Informant reports may help to fill in the gaps in self-knowledge that exist for individuals with BPD (Vazire & Mehl, 2008). In addition to using comparatively stable information gained as outside observers themselves, informants may provide insight into how others see the target. That is, informants may be privy to how individuals (other than the informant) perceive the target. For example, others may have divulged opinions about the target to the informant, opinions that they may be uncomfortable sharing with the BPD individual. For example, mutual acquaintances of the BPD individual and the informant may vent their frustrations about the BPD individual to the informant, but not directly to the BPD individual. Informants also may have a better understanding of the perceptions of others than the target. This understanding may allow informants to interpret the behaviors of others towards the BPD individual in ways that the BPD individual cannot. Overall, informants may be able to provide a greater amount of information or more representative information about how BPD targets are perceived by others.

Informants may also be able to more accurately predict or understand the target's presumed mental states. Informants may not have the same deficits in emotional recognition that BPD targets often experience. Individuals with BPD have been described as suffering from a degree of alexithymia, an inability to identify and describe the personal emotions that

one is experiencing (Modestin, Furrer, & Malti, 2004). Consistent with this, individuals with BPD often have difficulty understanding and labeling emotional states (Bateman & Fonagy, 2003; Ebner-Priemer et al., 2008). For example, individuals with BPD who are in a state of physiological arousal may have difficulty determining whether they are angry, excited, or anxious. It has been suggested that this uncertainty is due to a learned belief that their self-perceptions are wrong (Linehan, 1993), which may lead these individuals not only to mislabel their feelings, but also to be unwilling to rely on the self-knowledge that they can access.

Finally, an informant may be more confident in their perceptions of the BPD target's affect than targets are. This is again because informants do not share the target's alexithymia, or difficulty recognizing and labeling emotions (Lorey et al., 2012). Muller (2000) described alexithymia as reflecting a "deficient interior life". In this conceptualization, informants could be said to have less deficient interior lives relative to targets (Gill, Swann, & Silvera, 1998), allowing informants to develop and share more complex models of personality than targets that include interrelationships between personality features and outside factors that self-reported models lack. Functionally, informants may provide a clearer, broader understanding of targets because informants are not affected by the same uncertainty or self-doubt as targets while simultaneously having access to more nuanced understandings of emotional functioning and personality.

Accuracy and Honesty

Informants may be able to provide information about BPD features because they typically do not possess the same impediments to forthright and insightful disclosure as targets. Informants may be less prone to perceiving others as dangerous and exploitative.

Similarly, informants may feel that reporting on the target is less likely to adversely impact them. They have less of a risk of being judged than targets because the features informants report on are not their own. Informants who are in a relationship with the BPD individual may even be motivated to disclose damaging behaviors because they have been adversely affected by the BPD individual's behaviors. The difference in motivation between informants and targets may be greater at lower levels of feature intensity when informants, though possibly not targets, do not see reports of milder features as likely to negatively impact the target or the informant. These differences in perception and motivation leave informants in a position to identify behaviors that complicate the target's relationships.

The use of informants may provide insight into features the target is afraid or otherwise hesitant to reveal. Informants are less likely to be fearful of disclosure because they do not suffer from the same confusion and fear about the consequences of this disclosure. In addition, informants are less invested in impression management regarding the target. Furthermore, by not being a central part of at least some of the target's relationships (i.e. can observe how the target interacts with others), the informant may have a less biased view of the target's bigger interpersonal picture. Finally, informants are typically people who currently have relationships with the target (Vazire, 2006), which presumably places informants in the position of knowing about negative features of the target while not yet having abandoned the target. Relatedly, the informant is not at risk of being abandoned because of their own negative features being revealed. This fact may allow the informant to disclose about the target without taking on significant interpersonal risks themselves.

Additionally, informants may not share the same reactivity in affect as individuals with BPD. For example, though individuals with BPD may be distressed if assessment

involves unpleasant cognitions or emotions (Cheavens et al., 2005; Gratz et al., 2006; Rosenthal et al., 2005) with such distress triggering defensive behaviors and biased or missing responses to items, informants are unlikely to show the same degree of reactivity for a couple of reasons. One, compared to individuals with BPD, informants may not be as reactive to item content in general (Sansone & Sansone, 2010). Two, informants are not being asked to report on their own negative features. This aspect of informant report may limit the degree to which negative features trigger negative affect because item content is at least one step removed from personal disclosure. Even informants with close relationships to targets appear to show less of a tendency to enhance or minimize target personality features compared to the self-enhancement and self-diminishment effects shown by targets (John & Robins, 1993).

CHAPTER IV

DISAGREEMENT BETWEEN SELF-REPORT AND INFORMANT-REPORT

Self-report and informant-report each carry its own unique benefits and drawbacks. Self-report benefits from the target of assessment supplying its own self-referential knowledge and understanding. In this way, self-report can provide information on otherwise inaccessible internal states, beliefs, and cognitions. Additionally, the self has access to information that spans a broad array of contexts and time periods unavailable to others. Unfortunately, self-report is also subject to the same distortions of perspective, deficits of self-knowledge, and biased response styles that are of particular importance in the assessment of BPD. Informants, by comparison, lack the introspective sources of data available in self-report, but can instead provide information not under the direct influence of the target's BPD features. This difference in biases and distortions allows informant-report to add incremental, potentially more nuanced, information to that provided by self-report. Informants are also able to report on the reputation of the target in a way that the target cannot, thereby adding further detail to the target's assessment.

Complicating the use of adjunct informant-report is the low, though positive, agreement typically found between self- and informant-report of BPD (Allard & Grann, 2000). Given that both self-report and informant-report appear to contribute valid insight into BPD features, this low agreement suggests that self-report and informant-report contribute different information or are influenced by factors that affect how features are characterized. The source of this divergence is likely a combination of factors arising both from typical approaches used in assessment and from characteristics specific to each reporter type.

One potential explanation for this disagreement relates is to a reliance on a categorical conceptualization of BPD. To meet diagnosis for BPD, an individual must exhibit at least five of the nine BPD criteria. This approach provides 256 different combinations of criteria that yield a BPD diagnosis. Each combination of criteria represents a potentially distinct manifestation of BPD. In this way, specific BPD profiles may indicate different levels of BPD severity and different clinical pictures when compared to other criteria combinations.

When self- and informant-report is used primarily to determine whether the target meets the diagnostic threshold for BPD, a wide range of possible BPD severity and quality is reduced to a simple dichotomy. This oversimplification ignores information about which particular features are present, grouping 256 different possible combinations of BPD symptoms into a single category while ignoring sub-threshold symptom combinations that may still be driving significant dysfunction. Furthermore, this approach to BPD is inconsistent with research indicating that BPD may be better conceptualized dimensionally rather than categorically (Krueger, Watson, & Barlow, 2005; Rothschild, Cleland, Haslam, & Zimmerman, 2003). When self- and informant-report are applied categorically rather than dimensionally (i.e. on the presence or absence of features rather than on severity), their reports may suffer from a lack of meaningful precision and empirical basis. The less precise or reliable a report, the more potential there is for variance or error between reports. This inexactitude and misfit of conceptualization may magnify differences in perspective, leading to a greater likelihood of low inter-rater agreement as disagreement over severity is potentially turned into a more stark disagreement on presence or absence.

The categorical approach to BPD diagnostically has further implications affecting useful assessment. Reporting only the diagnosis of BPD overlooks clinically significant differences between individuals with BPD when different numbers of criteria are endorsed (Ruggero et al, 2010; Asnaani, Chelminski, Young, & Zimmerman, 2007). This suggests that simply meeting threshold for diagnosis is insufficient for estimating the severity of an individual's BPD. Given the low agreement and limited information on BPD severity that a categorical approach provides, alternatives to relying primarily on the presence of a diagnosis must be considered.

One commonly used alternative to a simple categorical assessment involves the more granular approach of comparing the number of criteria endorsed to estimate the severity of the disorder, but this approach has its own pitfalls. One issue arises from treating each criterion as equally indicative of underlying BPD severity. Not all criteria may be equally indicative of underlying BPD severity (Blais, Hilsenroth, & Fowler, 1999; Widiger et al, 1984; Grilo, Becker, Anez, & McGlashan, 2004). For example, the presence of parasuicidal behaviors appears to be more predictive of BPD diagnosis than paranoid ideation under stress (Grilo et al, 2004). Additionally, criterion-counting treats each BPD feature as though it operates independently of co-occurring criteria, ignoring the very real likelihood of interaction effects.

Some combinations of criteria appear to better predict BPD diagnoses than others (Widiger et al, 1984) which suggests that different criteria combinations may be indicative of differences in BPD severity or presentation even when the total number of criteria endorsed is the same. The problem with this approach comes when one considers that at five criteria, the minimum to meet the diagnostic threshold, there are 126 different possible combinations

that are all likely to indicate different degrees of BPD severity. As a result of the extreme heterogeneity of BPD presentation, ratings of agreement are likely to be low and estimates of the target's overall BPD severity uncertain when based primarily on counting criteria.

To counteract these shortcomings, it is beneficial to assess BPD severity within a framework that acknowledges BPD as a complex disorder with multiple forms of presentation that nonetheless appear to reflect a common dysfunctionality underlying multiple symptoms. An important part of addressing the complex and heterogeneous nature of the disorder requires an understanding that each criterion serves as an indicator of the target's underlying BPD severity. Criteria may vary in how and to what degree they indicate the severity of the underlying BPD even while contributing to the description of a single underlying variable. To improve the precision and level of agreement between self- and informant-report, an optimal approach examines and quantifies the differences in the degree of severity that each criterion indicates for each reporter type. One such approach is found in Item Response Theory (IRT).

Item Response Theory (IRT) (Hambleton, Swaminathan, & Rogers, 1991; Embretson & Reise, 2000) provides an alternative approach to assessment that allows a more granular, precise analysis of report data. As described above, different criteria (or items) contribute different information about not only which features are present, but also about the underlying severity of the disorder. An IRT approach weights the items endorsed to provide a more precise estimate an individual's location along the spectrum of possible BPD severity. Whereas a traditional criteria-counting approach only describes ten possible levels of BPD severity (i.e. 0-9), IRT allows the same set of items to describe 512 different levels of severity as each unique combination of the nine BPD criteria describes a unique location

along the latent continuum of BPD severity. Addressing and incorporating via IRT the different functioning of self-report and informant-report allows meaningful comparisons to be made between reporters. While self and informant may disagree regarding the presence or character of particular features, they may still be attempting to describe similar levels of underlying severity. The differences in how they describe that severity may manifest as low agreement when using traditional approaches. In the IRT framework, those differences are taken into account in a manner such that the level of agreement regarding the overall clinical picture is uncovered. In turn, with a shared perspective as a reference point, more granular comparisons can be made that may shed light on differences in function and utility between reporters.

Ultimately, the use of both self-report and informant-report holds promise in improving the assessment of BPD. However, usefully integrating self- and informant-reports into a single assessment is subject to certain difficulties, particularly in regards to the assessment of individual BPD features. Psychometric differences on shared measures may be of sufficient scope that the picture described by informant and target may only be superficially similar even when there is positive agreement. Reporters may interpret the same questions in distinctly different ways. When informants and targets endorse the same BPD criteria, their endorsements may actually relate to different levels of underlying severity. For example, parasuicidal behaviors may be indicative of more severe BPD when reported by an informant than when reported by the target because informants may not be aware of such behaviors until they become sufficiently extreme. Therefore, item and test functioning must be taken into account when forming a blended report of an individual's BPD features.

Additionally, creating a valid aggregate measure means that disagreement between reports requires somehow reconciling conflicting viewpoints. Clarifying the validity and functional characteristics of each report type is needed to bridge the gap between them. To that end, a third, easily observed measure of BPD dysfunction is necessary. Correlations between reported BPD features and measurable, real-world outcomes provide comparatively concrete indicators of validity. The information provided by each type of report can be characterized by analyzing the relationship between reported features or severity and clinically-relevant, objectively-measured outcomes that are theoretically reflective of BPD-related dysfunction.

CHAPTER V

COMPARING THE FUNCTIONAL VALIDITY OF SELF-REPORT AND INFORMANT-REPORT VIA CLINICALLY-RELEVANT OUTCOMES

Neither self-report nor informant-report alone appear capable of providing a comprehensive clinical picture that successfully integrates internalized and externalized BPD features across both time and context. Even so, both types of report provide unique benefits within their loosely circumscribed areas of expertise. To compare the validity of reports, I must look to a third variable to compare the functioning and characteristics of self- and informant-report. As I am already attempting to square the circle of conflicting and subjective reports, what is needed are observable and comparatively objective measures that reflect the same underlying dysfunction as the reports. Luckily, BPD features have real-life implications.

BPD features negatively influence a broad range of core functional domains including cognitive, social, and emotional functioning. Therefore, BPD features, feature combinations, and overall severity should be predictive of concrete, negative functional outcomes. That is, maladaptive features should be reflected in related functional domains. For example, high interpersonal instability should be concretely observable in socially-influenced aspects of life such as employment history.

The utility and validity of self-report and informant-report can be analyzed by comparing the relationships each report type has with different outcomes. First, the overall validity of each report can be partially described by the degree to which its description of BPD features and severity correlate with specific, clinically-relevant outcomes. If informant-

report includes more information that reflects the target's reputation, I expected to see a higher correlation between informant-reported BPD severity and, for example, number of friends. The type of outcome and the strength of the correlation then characterizes how informative a reporter is in different contexts (e.g. interpersonal, financial, etc.). Secondly, the relative validity of self-report compared to informant-report should also be reflected by the total number and overall strength of their significant correlations with important outcomes. A larger number of significant correlations and higher overall correlation values would indicate that a report provides more useful information.

Clarifying and comparing the validity and reliability of informant-report and self-report provides a base for even further possible assessment utility. Because both self-report and informant-report provide a degree of valid, incrementally useful information, I expect that both types of report will provide some additional information regarding clinically-relevant outcomes. Whereas one form of report or the other may show relatively higher utility on its own, aggregate measures of BPD features, BPD profile, and underlying severity may provide the information necessary to better account for the factors and processes that contribute to, or co-occur with, clinically relevant outcomes. For example, social and vocational outcomes are interrelated with both how the BPD individual sees others and how others see the BPD individual, factors that may be tapped by self-report and informant-report respectively. Therefore, assessments that draw on both forms of report may be the most suitable in predicting relevant outcomes.

CHAPTER VI

CURRENT STUDY

Given the differences shown between self- and informant-report and the relationships between features of BPD and various important, clinically significant outcomes, I proposed to use this dissertation to investigate the capacity of self- and informant-reports to predict life outcomes with an emphasis on predicting negative outcomes. Within this broad objective, I proposed the following specific aims:

Aim 1: Examine Self-Informant Agreement on BPD Features, Profile, and Severity

Self- and informant-report agreement on Borderline Personality Disorders (BPD) personality factors and criteria has often been found to be poor (Busch, Balsis, Morey, & Oltmanns, 2015; Carlson, Vazire, & Oltmanns, 2013; Clifton, Turkheimer, & Oltmanns, 2004, 2005; Hyler et al, 1989; Samuel & Widiger, 2010). Previous studies on self-other agreement have typically focused on individual criteria, personality scales, and broad underlying domains. Personality disorders are often defined by distortions in perception and cognition which suggest that even low positive agreement may be misleading and may not be matched by a similar positive agreement on the overall clinical picture. That is, reporters may appear to report the same features, but perceive the target differently. In the current study, self-informant dyads in the St. Louis Personality and Aging Network (SPAN) study (Oltmanns, Rodrigues, Weinstein, & Gleason, 2014) were assessed for agreement on both specific BPD criteria and criteria-combination profiles. Patterns of endorsement (i.e. specific combinations of endorsement criteria) and thetas representing BPD severity were used to examine the degree of agreement between self- and informant-report in the description of

BPD targets. I expected to be able to replicate prior findings showing low to medium, positive agreement on individual criteria, but that there would be no agreement when specific combinations of endorsed criteria were compared across reporter types.

Goal A: Replication of Low, but Positive, Agreement on Individual Criteria

To ensure that the report data used were sufficiently similar in character to those used in prior studies, self-report and informant-report were subjected to analysis to ensure sufficient self-other agreement (kappa) was replicated to allow further analyses and permit comparison of results with those found in the literature.

Goal B: Replication of Positive Agreement on Reaching Diagnostic Threshold for BPD

As above, prior research has often found a degree of positive agreement between self and informant regarding whether an individual satisfies enough BPD criteria to yield a clinical diagnosis. Self-informant report was assessed for agreement on the presence of a BPD diagnosis for comparison with both the prior literature and with other forms of agreement discussed below.

Goal C: Analysis of Self-Informant Agreement on Number of Criteria Endorsed

The number of criteria endorsed, rather than diagnosis alone, has been used as one approach to estimating BPD severity. I compared the number of criteria endorsed by targets versus informants to illustrate potential differences in response styles, such as over- or under-reporting severity.

Goal D: Comparison of Self-Informant Agreement on Overall BPD Profile Reported

Though the literature has shown some interrater agreement on individual BPD criteria and the presence of clinically diagnosable BPD, there is a dearth of information on whether

reports agree on the overall clinical picture. Given the possible interactions between criteria and the difference in clinical presentation that a single criterion can make, disagreement on the overall profile of criteria present would be indicative of meaningful differences in perceptions, beliefs, and information available to different reporters.

Aim 2: Explore the Relationships Between BPD Criteria and Clinically Significant Outcomes

The proposed study will perform exploratory analyses of the relationships between specific endorsed criteria and a range of outcomes. The relationships between endorsed criteria and outcomes were compared across reporter type to assess for differences in criteria functioning in the prediction of outcomes. Hierarchical regressions were performed to explore differences in the correlation of reported criteria endorsements and clinically-relevant outcomes.

Goal A: Correlations Between Specific, Individual Criteria and Specific, Individual Outcomes

Not all BPD criteria function similarly when predicting outcomes and BPD features (Bagge et al, 2004; Sharp et al, 2014), but prior studies have often been limited to exploring correlations between individual criteria and a small selection of outcomes. Many of these studies have addressed aggregate measures of dysfunctional outcomes (Bagge et al, 2004; Sio et al, 2011; Frankenburg & Zanarini, 2011; Jovev & Jackson, 2006). The use of aggregates may miss differences in a criterion's predictive power at a more granular level. Taken together, this suggested a need to examine each criterion's predictive power using a larger pool of potentially related outcomes.

CHAPTER VII

METHOD

In the current study, self-informant dyads in the St. Louis Personality and Aging Network (SPAN) study (Oltmanns, Rodrigues, Weinstein, & Gleason, 2014) were assessed for agreement on specific BPD criteria, criteria-combination profiles, and underlying BPD severity. Additionally, correlations of individual criteria, profiles, and severity with a variety of clinically-relevant life outcomes with assessed for self-report, informant-report, and aggregate self-informant report.

Participants and Recruitment

Participants were recruited from the city of St. Louis and suburbs near the city. Participants that met the criteria for recruitment were offered $60 to complete a 3-hour assessment. The ethnic and racial diversity of St. Louis provided a wide range of demographic representation within the recruitment pool. Within the recruitment region, 30% of the population was African American and 60% Caucasian. Only 2% of this population was Hispanic. This research was performed as part of the SPAN study (please see Oltmanns et al, 2014 for a detailed description).

Participants were requested to identify individuals that knew them well and were capable of providing accurate descriptions of the participant's personality features with a preference for informants lived with the participants. Participants were asked to identify "the person who knows you best" when cohabitant informants were not available. Informants were eligible for inclusion the informant and the participant talked at least monthly and interacted in person at least yearly. Those informants meeting eligibility had known

participants for approximately an average of 30 years (*SD* = 15) and were an average of 50 years old (*SD = 11.5*. Female informants made up more than 69% of the informant sample. About half of the informant pool consisted of spouses or partners. The remaining informants recruited were the target's other family members (e.g., an adult child of the participant) or a close friend of the target. Participants without an associated informant were included in the study, but were responsible for only small percentage of the total participant sample (i.e. only around 9% of participants lacked an informant that completed the baseline assessment).

The initial subject pool included 1,630 individuals. The final sample included 1,387 participants (55.5% female) living in the St. Louis area (40% within city limits and 60% in surrounding county) who provided an informant to report on the participant. Slightly more than half (54%) of had been born in St. Louis, 43% had been born elsewhere in the United States, and 3% had been born outside of the U.S. The majority (92%) of participants had resided in St. Louis for at least 20 years. Participants entering the study were between the ages of 55 and 64 when first recruited (M = 59.6, SD = 2.7 years). The participant sample included 68% Caucasian, 30% African American, and 3% other ethnicities (e.g., American Indian). Twenty-five participants self-identified as Hispanic or Latino which was under the 2% expected for the sample.

The use of a comparatively older population is called for in non-longitudinal studies whose intentions are to examine the relationships between hypothetically stable factors, such as personality disorders, and variables that relate to multiple life stages, such as health problems atypical in younger populations. Many relevant outcomes are of a lower incident rate while still possessing significant impact, such as suicide attempts, or require longer periods of time to occur, such as completing higher levels of education. Additionally, some

outcomes require preceding events to happen before occurring. For example, divorce first requires marriage, then the development of motivation to end the marriage, and finally the successful completion of divorce proceedings. From this perspective, the process of divorce can take much longer than simply the time between filing for and completing divorce proceedings. To study outcomes that resulting from a series of prior events or outcomes that occur less often or more slowly, older populations can be particularly well-suited as they have a sufficiently long history to accommodate time and base rate considerations.

Materials

Target participants and informants completed, among other measures, the Multisource Assessment of Personality Pathology (MAPP; Oltmanns & Turkheimer, 2006). The MAPP consists of 103 items. 79 items were derived from the criteria of 10 PDs as presented in the DSM-IV. These criterion-derived items had been paraphrased into layperson's terms. The other 24 items described additional features with a positive valence. The MAPP's original design was intended for use in groups in which individuals nominate other members of the group as possessing certain personality pathology features. Following nomination, individuals rate the level at which the nominee demonstrates these features. The MAPP also includes a self-report version wherein individuals endorse the degree to which they possess these features. The self-report version was altered in the present study so that targets rated themselves and informants rated the targets using this measure. This administration of the MAPP only required participants to rate themselves or others and did not use group nominations.

Procedure

Given PD features' relationships to clinically significant factors and outcomes, the SPAN study used a prospective cohort study design to focus on the effects of PDs in later life. The SPAN study made use of many forms of assessment (e.g., the NEO-Personality Inventory-Revised, Costa & McCrae, 1992; The Structured Interview for DSM-IV Personality SIDP-IV, Pfohl, Blum, & Zimmerman, 1997; The Multisource Assessment of Personality Pathology, MAPP, Oltmanns & Turkheimer, 2006; for a more complete list, please refer to Oltmanns & Gleason, 2011). The present study compared self- and informant report in the endorsement of, and agreement on, BPD features across severity levels of the disorder. For this reason, only the demographic information and data from the MAPP measure were included in the present analyses.

Data Analyses

Each unique profile pattern (UP) of endorsement were coded individually (e.g. the endorsement of criteria 1 and 3 were coded 101000000; endorsement of the criteria 1, 2, 3, and 7 were coded 111000100). The Kappa was then calculated separately for each UP across self- and informant-report. Coefficient kappas were calculated to determine the levels of self-informant agreement at the criterion and criteria profile levels. Kappas and weighted kappas were calculated separately for each of the nine BPD criteria as well as for each profile, or constellation of endorsed criteria, that was found in both self and informant reports. Intraclass Correlation Coefficients and Cohen's weighted kappas have been shown to be functionally equivalent under general conditions and therefore can be compared when examining agreement and reliability (Fleiss & Cohen, 1973).

Further, an Item Response Theory (IRT) approach was used to calculate the estimated severity of the target's underlying BPD severity. An IRT analysis using a 2PL model was performed to determine person parameters (theta or θ) as endorsed by informants, targets, and by aggregate endorsement incorporating both self and informant responses. Thetas indicate where along the latent variable an individual is located based on the items endorsed. For the purposes of this study, the latent variable was categorized as the target's BPD severity. IRT allows individual item function (i.e. specific criteria) and overall pattern of responses (i.e. set of criteria endorsed) to estimate the target's location (θ) along a latent variable. In this way, IRT allowed insight into how individual criteria differentially contribute to information regarding the value of the latent variable. IRT analyses were performed to yield the item characteristics of the BPD criteria independently for self- and informant-reports and again for the aggregate reports. Two-parameter logistic (2PL) IRT models were tested for goodness of fit to the observed self- and informant-reported MAPP BPD data using MULTILOG Version 7 (Thissen, Chen, & Bock, 2003). 2PL models analyze items to produce measures of an item's "difficulty" (b) (i.e. where along the latent trait the probability of endorsement is .50) and the item's "discrimination" (a) (i.e. the degree of relatedness to the latent trait). Item characteristic curves (ICCs) were plotted using the difficulty (b) and discrimination (a) parameters along the latent trait, theta (θ).

ICCs describe the probability of an item being endorsed across the levels of the latent variable axis. ICCs were summed across theta to produce test characteristic curves (TCCs) for both self- and informant-reported data. TCCs demonstrate aggregate item properties and were used to compare the relationships between raw scores and estimates of the latent trait. The fits of three-parameter logistic models, which are intended to account for guessing by

respondents, were not assessed as participants were not assumed to guess in response to MAPP items.

IRT analyses necessitated that the local independence of items wherein items are correlated through the model fit to the data and other residual item variance is uncorrelated between items (the IRT model should explain almost all of the meaningful variability in item response). Unidimensional IRT models, including the 2PL model used in our analyses, additionally required that item responses reflect only a single latent trait. Though no item set is in reality entirely unidimensional, IRT analyses do require the presence of a single dominant factor that influences item response (Hambleton, Swaminathan, & Rogers, 1991). The raw data's appropriateness for IRT analyses was tested for unidimensionality and local independence. Both self-report and informant-report data were submitted to an exploratory factor analysis using maximum likelihood estimation. To determine whether the data is acceptable for IRT analyses, categorical confirmatory factor analyses (CFAs) were performed on both self-report and informant-report data using weighted least squares mean and variance adjusted estimation in Mplus Version 5.2 (Muthén & Muthén, 2007). When CFA model fit indices indicated that a one-factor model provides good fit to the data, the unidimensionality requirement was fulfilled. Unidimensionality in unidimensional IRT models indicates that items also meet the requirement for local independence (e.g., Hambleton et al., 1991).

Our IRT analyses treated self and informant-report data as using a shared latent BPD variable even though this latent trait has not been equated across groups. In an IRT context, item parameters across groups typically provide ratings independent of each other. These ratings would then be used to map the item parameters onto a single latent variable axis

through linking and equating. Linking and equating places parameters with a single metric to enabled valid comparisons across the groups involved (i.e. comparing item parameters while taking into account differences between the groups; for example, comparing clinical and non-clinical samples using the same personality measurement items). In the current study, item parameter differences were examined along a dimension known to be identical across groups (in this case, the target's personality). Therefore, linking and equating were not required since the underlying latent variable is the same for both groups (i.e. the level of BPD severity addressed by self-report and an informant-report is the same, only the items' relationship to the latent BPD variable should differ).

Hierarchical regression analyses were performed using self-report and informant-report in the prediction of outcomes. Hierarchical regression provides the total variance, the unique variance of self and of informant, and the variance shared across both reporter types. These variances describe the information that is unique to each reporter and what information is shared across reporters. This provides a method of describing the incremental utility of informant report when used in conjunction with self-report. Linear regressions were performed for continuous, interval, and ordinal variables such as "How many times have you been hospitalized?" Logistic regressions were used for outcomes that are binary or categorical, such as "Have you ever been diagnosed with alcoholism?"

Each BPD criteria was analyzed as a predictor for clinically-relevant life outcomes in 9 domains of life function. Outcomes were either bivariate and assessed through hierarchical logistic regression or continuous and assessed through hierarchical linear regression. Outcomes were taken from the RAND-36 Health Status Inventory (Hays, Prince-Emburg, & Chen, 1998), the MAPP questionnaires (Oltmanns & Turkheimer, 2006), and Social

Adjustment Scale (Weissnab, 1999). For purposes of convenience, outcome categories can be broken down broadly into personal and interpersonal functions. 14 bivariate and 3 continuous substance abuse outcomes (e.g. Used Cocaine Ever), 3 bivariate and 8 continuous psychological outcomes (e.g. Mental Health Composite Score), 14 bivariate and 9 continuous health outcomes (e.g. BMI, Cancer Ever), 3 continuous intelligence measure outcomes (e.g. WASI score), and 3 continuous personal identity outcomes (e.g. Religiosity) were assessed to explore associations between pathology-derived predictors and personal functional outcomes. Interpersonal outcomes were examined using 6 bivariate and 3 continuous legal and criminal outcomes (e.g. Committed Violent Crime Ever), 4 bivariate and 11 continuous relationship-based outcomes (e.g. Number of Divorces), 4 bivariate and 3 continuous domestic conflict outcomes (e.g. Physical Conflict Ever), and 3 bivariate and 7 continuous financial and employment-based outcomes (e.g. Fired Ever). A total of 98 outcome variables were used.

Finally, I also examined the possible of effects of gender and relationships on the reporting of BPD features. To take into account the possible effects of Target Gender, Informant Gender, Target Gender X Informant Gender, and Informant-Target Relationship (i.e. Partner/Spouse, Child, Friend/Roommate), I conducted ancillary regressions. These analyses tested the possible main effect of Target Gender, Informant Gender, and Informant-Target-Relationship on agreement (kappa). I also tested the moderating effect of Target Gender by Informant Gender on kappa. The significance of these regressions is reported in the Results section. I will analyze and discuss the significant results in the Discussion section. Since Target Gender X Informant Gender and Relationship Variables were not found to be significant, I did not statistically control for them in the main results concerning Criteria Endorsement, Reporter Type, and Life Outcomes.

CHAPTER VIII

RESULTS

Self and Informant Agreement

BPD Criteria, MAPP Scores, and Diagnostic Threshold

Inter-rater reliability, comparing self and informant composites of all BPD features, was modest at best. The Pearson correlation between self and informant MAPP scores for BPD was 0.26 (Oltmanns et al., 2014), explaining 7% of the variance. The Pearson correlation between self and informant MAPP scores reaching diagnostic threshold was 0.11. At the level of individual diagnostic features, agreement was even lower. Item-level kappas computed dichotomously (feature not present, score of 0, 1, or 2 vs. feature present, score of 3 or 4) ranged from 0.07 to 0.16 (Table 1), displaying poor though statistically significant ($p < 0.05$) levels of agreement. No moderating variable (Target Gender, Informant Gender, Target Gender x Informant Gender, or Informant-Target Relationship) had a significant effect on kappas.

Given the relatively low agreement across perspective, I investigated whether that agreement could be due at least in part to the differential ability of each perspective to identify the latent BPD continuum. I approached these analyses within an IRT framework, which depends on the data meeting an assumption of unidimensionality. To evaluate for unidimensionality, I performed a confirmatory factor analysis using the comparative fit index (CFI), the Tucker-Lewis index (TLI) and the root mean squared error of approximation (RMSEA) to evaluate model fit. CFI/TLI values > 0.95 and RMSEA values < 0.06 suggested good model fit (Hu & Bentler, 1999). Results of these analyses suggested sufficient

unidimensionality for IRT analyses. Self-report data CFI (0.98) and TLI (0.97) were both greater than .95 and RMSEA (0.03) was less than .06. Similarly, informant report data also had CFI and TLI values greater than .95 (1.00 for each) and an RMSEA less than 0.06 (0.02).

After confirming the unidimensionality of the data, I performed an IRT analysis using a 2PL model. Across all BPD criteria, informants provided more information than did targets, particularly at lower levels of BPD intensity (Figure 1). The test information functions (TIFs) across informants and targets reveals the general trend. For the informants (dashed line), the point at which informants showed greatest information was theta = 1.61 (SD units), which corresponds to the peak of that curve. The point of greatest overall information for targets is indicated by the peak of the solid line (2.10 SD). The intersection of the two TIFs defines the point at which informants stop providing more information about BPD criteria than targets (2.25 SD). In other words, up until fairly severe BPD intensity (over two standard deviations), informants provided more information than targets.

These overall TIFs in targets and informants were generated from the individual item characteristic curves (ICCs) for each of the BPD criteria (Figure 2). These individual item curves show that the difference in responses from targets and informants were statistically significant in 7 out of the 9 criteria. The b parameters for the self-report perspective fell outside of the 95% confidence interval for the informant-report perspective on the following criteria (all $p < 0.05$): Unstable Relationships, Impulsivity, Threats of Self-Harm, Affective Instability, Feelings of Emptiness, Intense Anger, and Paranoia/Dissociation (Table 1). There were no statistically significant b parameter differences between target and informant responses on two criteria: Efforts to Avoid Abandonment and Identity Disturbance. The self-report a parameters fell outside of the 95% confidence intervals (1.96+/- SEs) for the

informant on the following four criteria ($p < 0.05$): Fear of Abandonment, Unstable Relationships, Impulsivity, and Feelings of Emptiness (Table 1).

Finally, informants were more likely than targets to endorse items. This relative frequency was greater at higher levels of the scale, as reflected by the trend line in Figure 3. In other words, there was a trend in the target/informant ratio with informants increasingly likely to endorse more features than targets at higher levels of the scale.

BPD Profile

Informants and targets showed statistically significant but low levels of agreement in their endorsement of specific, individual BPD criteria. Kappas of single item endorsement for self-report and informant-report were positive and ranged from 0.07 to 0.16 (Table 1, displaying low though statistically significant ($p < 0.05$) levels of agreement). One endorsement discrepancy of note was that informants displayed higher levels of internal consistency ($\alpha = 0.79$) than targets ($\alpha = 0.69$).

Each unique pattern (UP) of endorsement was coded (e.g. the endorsement of criteria 1 and 3 was coded 101000000; endorsement of the criteria 1, 2, 3, and 7 was coded 111000100). The kappa was then calculated separately for each UP across self- and informant-report. Notably, informants used a greater number of UPs (162) than were used by targets (104). Of these, only 73 UPs were used by both targets and informants. Significant, positive agreement was only found in 8 of the 73 shared UPs (Table 2). Three of the significant Ups were for single-criterion endorsement (Fear of Abandonment, Unstable Relationships, and Chronic Feelings of Emptiness), and the remaining four UPs were for specific pairings of criteria (Unstable Affect with Chronic Feelings of Emptiness, Fear of Abandonment with Paranoid Ideation/Distrust, Fear of Abandonment with Anger

Dysregulation, and Fear of Abandonment with Unstable Identity). No patterns of endorsement including more than 2 criteria showed any significant, positive agreement.

Clinically Relevant Life Outcome Prediction

Significant Criterion/Outcome Associations

Each BPD criteria was analyzed as a predictor for clinically-relevant life outcomes in 9 domains of life function. Outcome categories were broken down broadly into personal and interpersonal functions. Personal outcomes included substance abuse, psychological, health, intelligence, and personal identity-related outcomes. Interpersonal outcomes included legal, relationship-based, domestic conflict, and financial and employment-related outcomes. A total of 98 outcome variables were used. All outcomes were significantly associated with at least one predictor variable.

Significant Associations with Outcomes

As a whole, we see that self-report and informant-report had similar numbers of significant outcomes overall (Self-report Mean n = 29; Informant-report Mean n = 28.22) (Table 3). Interestingly, surprisingly few outcomes were predicted by both report types simultaneously for any given criteria (Table 12). This suggests that each reporter provides somewhat unique information regarding the character of the target's BPD features. The significance values for outcomes in specific domains can be found in Tables 6-11.

Binary Outcomes

Both report types were associated with multiple significant outcomes (Table 4). When considering the number of significant associations alone, informant-report showed greater utility as a predictor of clinically significant outcomes. Informant-report had greater numbers

of significant associations than self-report for multiple individual MAPP criteria. Self-report had greater numbers of significant outcomes than informant-report only for Fear of Abandonment and Impulsivity

Self-report and informant-report of Unstable Affect had the greatest number of significant associations compared to other criteria. Self-report had the fewest significant associations with Fear of Abandonment, Parasuicidality and Self Harm, and Chronic Emptiness.

Continuous Outcomes

All self-report and informant-report variables significantly predicted multiple clinically-relevant life outcomes (Table 5). With the exception of self-reported Fear of Abandonment, all BPD variables significantly predicted at least one clinically-relevant life outcome. Report types did not differ significantly in the number of significant outcomes as either primary or incremental predictors.

Unstable Affect (Self-report n = 20; Informant-report n = 21) and Paranoid Ideation (Self-report n = 23; Informant-report n = 18) showed the greatest number of significant associations on average. Self-report of Paranoid Ideation (n = 23) predicted the most clinically relevant outcomes overall. Informant-report (n = 10) and self-report (n = 13) of Fear of Abandonment predicted the fewest outcomes.

CHAPTER IX

SUMMARY AND CONCLUSIONS

The purpose of the current study was twofold: First, to examine the comparative agreement of self and informant on the endorsement of both specific Borderline Personality Disorder (BPD) criteria and overall BPD severity. Secondly, this study evaluated the general and comparative ability of self- and informant-reports of BPD features in predicting clinically relevant life outcomes, as described by the self-report of 150 outcomes across nine life domains. The results suggested that while self- and informant-reports have a low, though positive, agreement on specific BPD features and moderate agreement on overall BPD severity, both self-report and informant-report provide benefits in the prediction of diverse and meaningful life outcomes. This study provides evidence that informant-report offers unique, functionally valid information regarding a target's BPD features and incremental utility in predicting life events and conditions that may affect the target's overall clinical picture.

Inter-Rater Agreement on the Presence of Borderline Personality Criteria

Data was collected using a large community sample. Very few individuals in this sample qualified for a clinical diagnosis of BPD. Nevertheless, many of the participants exhibited one or more features of the disorder. I described how the presence of these features may cause a person to be less able or less willing to report on their own personality characteristics. I hypothesized that informants may provide additional information about targets' personality—information that targets might not be able or willing to provide themselves. Indeed, our analyses showed that informants and targets provided different

information about targets' BPD features, as evidenced by relatively low BPD item level kappa values.

IRT analyses helped to shed light on these differences by revealing that informant and target reported BPD were sensitive to different parts of the underlying BPD continuum. Even at low levels of BPD, informants were more likely to endorse seven of the nine BPD criteria. Two features did not fit the general trend: Fear of Abandonment and Unstable Identity. I can only speculate as to why targets more readily reported these features about themselves. It is possible that both features involve data that may not be easily observed by informants. Individuals with BPD features often display a pattern of approach and avoidance (Holmes, 2004) in relationships and will sometimes cut ties with others or sabotage their relationships in response to fears of abandonment. Informants who have observed these behaviors in targets may not interpret them as being particularly consistent with the idea that the individual fears abandonment. Rather, the informant may attribute the failed relationships to the general interpersonal dysfunction of the target. The targets, on the other hand, may be more aware that the fear of abandonment was the driving force behind the failed relationships.

The Unstable Identity item may have similar properties that make it less likely to be endorsed by informants. BPD related identity instability can cause an individual to change their personal values and goals to match the individuals around them (Clarkin, Yeomans, & Kernberg, 2007). Informants may be more likely to see the individual expressing similar values, beliefs, and goals to their own across multiple interactions. This is possibly because BPD related identity instability is causing the target to mirror the values, beliefs, and goals of

the informant. This mirroring may make it difficult for any single informant to observe the fluctuations in identity.

It is also possible that the wording of the MAPP item assessing Unstable Identity ("Compared to others, my opinions and preferences change more frequently") does not accurately describe or capture the sort of identity disturbances associated with BPD. Other items in the MAPP may function more effectively for the related BPD features. Instead, this item may measure normal fluctuations in opinions and preferences more than it measures the general instability and lack of development of opinions and preferences that is commonly displayed by individuals with BPD.

I also found that informant-report provided more information overall than self-report. This may have happened because informants are more motivated to report on certain features of the target or because informants have a better awareness and understanding of the target's BPD features. Indeed, both explanations may be possible and may stem in part from features of BPD itself. Problems with trust and self-knowledge may hamper the target's ability to self-report. In addition, affective instability, poor relationships, distorted cognitions, and impulsivity may limit reports made by individuals with BPD features. At the same time, informants may be unaffected by these dysfunctional personality features and may be better able to report on the target's personality. They also may be more willing to do so, in part because reporting on certain personality features does not directly affect them, and they may find reporting on these features to be cathartic if the target's BPD personality features have been disruptive or harmful in the informant's life. Future studies will need to pinpoint the particular factors responsible for the difference in the overall reporting of BPD features by informants and targets.

Inter-Rater Agreement on Estimates of Latent BPD Severity

While self-report and informant report replicated the low, but positive, significant agreement in the endorsement of individual criteria found in the literature, it is notable that few complete patterns of endorsement showed significant agreement across report type and that none of these patterns involved the endorsement of more than two criteria. This suggests that while informants and targets may show positive, though limited, agreement about the presence or absence of individual criteria, they disagree on the overall pathology of the target. That is, reporters may agree that an individual has unstable relationships, but not agree on the other symptoms of BPD the target may display. Even agreement found at the more inclusive single-criteria level of inter-rater comparison was generally low. These results taken together reflect what may be fundamental differences in perception and reporting style between informants and targets.

Informants and targets showed a level of agreement regarding overall BPD severity that supports the incremental utility of informant report. The number of reported criteria and the specific criteria endorsed differed between reporter types, but the placement of the target along the underlying BPD severity latent variable appeared to be better agreed on when the differential item functioning of criteria between self- and informant-report was taken into account. A shared perception of severity that lacks agreement about specific pathological factors may be indicative of differences in the types of information that informant- and self-report provide. In turn, these differences speak to the incremental utility of informant-report in the assessment of BPD. As has been suggested previously (Carlson, Vazire, & Oltmanns, 2013), informants and targets have access to different sources of target-relevant information. Access to multiple sources of information already provides a potentially more nuanced and

well-developed picture of the target. Additionally, the patterns of disagreement between targets and informants may provide details about the impact or manifestation of BPD traits. Assessment with access to both direct and comparative reports may clarify the role of denial, lack of awareness, and patterns of bias that are more difficult to measure using a single source of report.

Interpretations of criteria may also diverge for reasons that are not specific to combinations of criteria, but due to ambiguity or conceptual overlap between criteria. It should be emphasized that most reporters do not have expertise in psychological assessments. Laymen may show less agreement due to a lack of a well-developed framework with which to interpret and describe pathological factors. This becomes an issue when we consider that many criteria are characterized by overlapping definitions or underlying domains of dysfunction (Samuel & Widiger, 2010). One of the clearest examples of this overlap is seen with anger dysregulation and unstable affect. Both criteria are characterized by deficits in the control of affect. Reporters may conceptualize these criteria differently depending on if they see one criterion as being primary and whether they believe the other criterion is redundant. For example, targets and informants may both be aware of explosively angry outbursts, but one reporter may consider these outbursts to be covered under the umbrella of "unstable affect" while the other perceives the anger as the predominant issue.

Given that agreement on the overall severity of BPD was often higher than the agreement on individual criteria, there is reason to suspect that agreement may be higher when latent factors that are shared by multiple criteria are examined. Informants and targets may show greater agreement about general domains of features (Samuel & Widiger, 2010), such as affect or interpersonal relationships. They may also show better agreement on

overlapping mechanisms of dysfunction, such as lack of self-control or splitting. A deeper and more nuanced exploration of patterns of agreement and disagreement may shed light on the barriers to accurate, sensitive assessment of BPD and on the underlying conceptual frameworks of BPD individuals and of those close to BPD individuals.

Finally, the differences in criteria endorsement and the somewhat stronger agreement on overall BPD severity suggests that combined self- and informant-report may show incremental predictive power over the use of either report type individually. Informant- and self-report appear to draw on different sources and types of information as well as providing different interpretations factors related to criteria. If the differences in reporting is not due to error or bias alone, we can expect to see criteria predicting clinically-significant outcomes differently depending on reporter type. For example, self-report may have better access to internal states such as anxiety (Carlson, Vazire, & Oltmanns, 2013) that more strongly correlate with health problems like chronic pain (McWilliams, Cox, & Enns, 2003). Informant-report may instead be more informative about interpersonal patterns (Hogan, Rybicki, & Borman, 1998; Carlson, Vazire, & Oltmanns, 2013) that may be useful in predicting difficulties with strong interpersonal factors such as employment or legal issues. The combined utility of informant- and self-report may be both incrementally useful in assessment and in potentially providing predictions and understanding of clinically-relevant outcomes.

Prediction of Clinically Relevant Life Outcomes Using BPD Measures

I hypothesized that many characteristic features of BPD may affect the information available in self-report and that informants that know the assessment target may be in a position to provide information otherwise unavailable (i.e. the incremental benefit

hypothesis). Consistent with this hypothesis, informant-report of BPD criteria provided incremental improvements in the prediction of clinically-relevant life outcomes. Indeed, that all the unique outcomes had significant associations with BPD variables and the range of life domains these outcomes represent suggests that BPD variables offer broad-spectrum utility in the prediction of life outcomes.

The hypothesis that self-report and informant-report provide different information on aspects of BPD functioning finds strong support in the finding that while all criteria of both report types were significantly associated with outcomes, but outcomes often were not significantly associated with both report types simultaneously. In approximately 45% of cases, one report type was significantly associated with an outcome while the other report type was not. The greatest overlap in significant associations was found with Unstable Affect (n = 27). The lowest overlap was found with Fear of Abandonment (n = 4). This supports our hypothesis that informant-report provides unique information past that received through self-report and suggests that this unique information covers a broad range of functional domains.

There are two possible reasons behind these reporter differences in outcome prediction. Firstly, these differences may be due to one reporter having fewer obstacles to reporting a given BPD criterion (e.g. willingness to report, awareness of symptoms). This is particularly probable for criteria that are either related primarily to internal states that are unavailable to the informant or that concern criteria where there is a greater incentive for biased reporting by one reporter type (e.g. positive image management).

Secondly, reporters may perceive and conceptualize these criteria using different frameworks. For example, informants may have a less ego-syntonic or accepting view of a target's angry outbursts. This may make informants' conceptualizations of symptoms more

reflective of overall social behavior. Similarly, informants who have experienced notable domestic conflict with the target may tend to endorse anger dyscontrol that is characterized externalized outbursts while targets may endorse anger dyscontrol that includes both or either internalized and externalized outbursts. In both cases, the experience of the BPD feature's manifestation informs the conceptualization of the BPD criterion in ways that differ across reporter type in terms of consequences, context, and character.

Individual BPD Criterion Function

In the analysis of categorical functioning, certain trends emerged in the predictive ability of different BPD criteria. Unstable Affect was amongst the strongest predictors in terms of predictive rates for both self-report and informant-report when considering the predictive rates of both report types and the functioning of each criterion as a predictor. Across most categories, Fear of Abandonment showed the lowest predictive rate.

Affective features appeared to be the most common factor related to outcomes overall. Affective criteria (Parasuicidal/Suicidal Behavior, Unstable Affect, Chronic Emptiness, and Anger Dyscontrol) showed significant associations with the most outcomes in both self-oriented and interpersonal domains. The next best predictor overall was Impulsivity.

Self-Oriented Outcome Domains

For generally self-oriented categories (i.e. substance use, health, psychological health, intelligence measures, and other personal history and identity factors), self-report of Impulsivity and Anger Dyscontrol and informant-report of Unstable Affect had the highest

number of significant outcomes. Unstable Affect had the highest number of significant outcomes overall across predictor type.

Psychological Outcomes

Self-report and informant-report showed similar predictive ability for psychological outcomes. Unstable Affect and Chronic Emptiness appeared to provide the highest predictive rate.

Substance Use Outcomes

Self-reported criteria, particularly Impulsivity, showed a greater predictive rate than informant-report for substance use outcomes. Impulsivity showed good predictive utility for both report types. This supports prior findings that show a high rate of comorbid substance abuse issues in BPD populations (Grilo et al, 1997; Links et al, 1995; Zanarini et al, 1998; Zanarini et al, 2004).

Health Outcomes

Self-report typically outperformed informant-report as a predictor. Unstable Affect was again the most predictive criteria overall and Fear of Abandonment the least predictive across report types.

Identity Outcomes

Self-report and informant-report showed similar predictive rates for identity-related outcomes, though self-report had slightly better predictive utility. No one criterion stood out as a particularly strong predictor within each report type.

Intelligence Measure Outcomes

Self-reported criteria generally predicted more intelligence and academic achievement outcomes than informant report. Paranoid Ideation (n = 2) showed the greatest predictive rates for self-report.

Interpersonally-Oriented Category Domains

For more interpersonally-oriented categories (i.e. relationships, domestic conflict, legal, finance and employment), self-report of Unstable Affect and informant-report of Chronic Emptiness and Anger Dyscontrol had the highest number of significant outcomes for their respective report types. Unstable Affect had the highest number of significant outcomes overall across predictor type.

Relationship Outcomes

Very few associations were found between BPD criteria and relationship-related outcomes. This was an unexpected finding given the highly interpersonal impact of many, if not all, BPD features. The self-report of Parasuicidality and Self-Harm and the informant-report overall displayed some predictive utility. It may be that many relationship-related outcomes have too many moving parts or that individuals with BPD features are more likely to become involved in relationships with "compatible" partners that have similar or complementary dysfunctionality. Perhaps a more likely explanation is that many outcomes included in this category were comparatively neutral in impact when contrasted with the outcomes of other categories, particularly since many of the adverse relationship outcomes were instead included in the domestic conflict category. For example, relationship outcomes such as sexual orientation or number of children are at best weakly related to dysfunction

while outcomes found in other categories have comparatively strong relationships, such as the number of times fired from a job or the use of hard drugs.

Domestic Conflict Outcomes

Informant-reported criteria were more than twice as likely to predict domestic conflict outcomes than self-reported criteria. These outcomes included both verbal and physical violence towards the target or the informant (i.e. they described experiences with the target as victim and as aggressor). Unstable Affect and Anger Dyscontrol showed the greatest overall utility in predicting domestic conflict outcomes. The self-report of Parasuicidal/Suicidal Behavior and the informant-report of Unstable Affect predicted the highest number of outcomes for their respective report types. Self-report of Parasuicidal/Suicidal Behavior and informant-report of Unstable Affect predicted the highest number of binary outcomes (e.g. whether there had ever been physical conflict). The self-report of Parasuicidal/Suicidal Behavior and the informant-report of Anger Dyscontrol predicted the most outcomes for their respective report types for continuous outcomes (e.g. frequency of physical conflict).

Informant-report showed a particularly notable improvement over self-report in the prediction of domestic conflict outcomes. The ego-syntonic interpretation of BPD features by the target may stay the same regardless of environment, but the target may have nonetheless learned to suppress the expression of those features in more public or formal contexts. In contrast, the comparatively casual and private context of the home may be where BPD features are demonstrated most frequently or intensely without necessarily being any less ego-syntonic. The difference is that the informant, as someone close to the target, has access to and is more likely to be the target of relatively unfiltered demonstrations of maladaptive features. Experiences of this sort may in turn influence the informant's description of the

target in a way that is disproportionately related to behaviors in the personal sphere compared to self-report.

Legal Outcomes

While informant-report was associated with a greater number of legal outcomes, the low number of outcomes examined necessarily limit the conclusions that can be drawn. No particular criterion was noticeably superior across report types. Unstable Affect did appear to have somewhat more utility than other criteria.

Financial and Employment Outcomes

Both report types demonstrated a similar predictive rate for financial and employment-related outcomes, though informant-report appeared to have slightly more predictive utility. Self-report of both Paranoid Ideation and Unstable Affect showed the best predictive utility for self-report. Unstable Identity had the highest predictive rate for informant-report.

Strengths and Limitations

Limitations

In this study, the investigation of the potential relationships between BPD features and clinically-relevant life outcomes was both broader than is often found in similar correlational studies. Typically, a single domain of life functioning is the focus of such studies and therefore requires fewer total variables analyzed. This leads the current study to be potentially spread thin and more vulnerable to false positives. Future studies may wish to examine a more circumscribed set of outcomes or use more stringent corrections.

Strengths

Strengths of the study included the diversity of outcomes and the large, epidemiological community sample. The broad scope of outcomes included in this study is somewhat unique and allowed an examination of BPD features as global predictors of life functioning. The range of significant outcomes associated with BPD features and the differential predictive utility of different BPD criteria provided information about the external validity of those criteria. The outcomes included in the analyses were selected to be representative of broad life domains rather than to address specific mental, social, or affective functions (e.g. interpersonal perception, attention-seeking) or test a discrete theoretical framework. This allowed the results to reflect both the pervasive nature of BPD and to contribute to a more nuanced, grounded understanding of the impact of those dysfunctions that characterize BPD.

The opportunity to explore external validity across a wide range of personality profiles and dysfunction was likewise a major strength of this study. Assessment of BPD criteria was provided via the MAPP (Oltmanns & Turkheimer, 2006), a well-established measure of personality disorders, for an epidemiologically representative sample of over 1,000 adults of a medium-sized U.S. city. This increases the generalizability, power, and level of representativeness of our results.

Future Directions

One goal of this study was to evaluate the potential of BPD features to produce nuanced, granular predictions of life outcomes. For the purpose of our analyses, the raw MAPP scores of BPD criteria were recoded to represent absence or presence at a clinically meaningful level. This collapsed the range of endorsement values from 0-4 to a binary value

that effectively reduced the granularity of information about individual criterion intensity. An alternative approach could evaluate each criterion's gradient values of endorsement (0-1-2-3-4) for agreement with other estimates of BPD severity, inter-rater reliability, and as predictors for life outcomes. This would retain information regarding estimates of the intensity of each BPD feature. Our own analyses suggest minimal agreement between reporters on specific BPD criteria and severity and found that there is effectively no inter-rater agreement regarding the target's overall BPD profile. Assessing the degree of agreement on the reported intensity of a given criterion is a clear next step, though one perhaps limited in sample size by the already low agreement on even the presence of a given BPD feature.

Similarly, graded endorsement values may provide a useful basis for developing an aggregate estimate of BPD severity. General estimates of severity offer two benefits: First, they do not require the presence of specific criteria to be useful as predictors. Second, they appear to be related to functioning in a very broad range of life domains. Aggregate estimates of BPD severity with greater gradation may provide unique information that is otherwise lost. This allows individuals with many BPD features at low levels to be compared to individuals with features that are more intense, but potentially fewer in number. This may be a particularly useful approach when investigating the interactions of different criteria.

Conclusion

Self-report and informant-report often disagree on the presence of individual BPD features and on the overall clinical picture, but our findings suggest that both types of report offer incremental benefits in assessing a target's dysfunctional features and how these features may affect their life. The different patterns of predictive efficacy found in each

report type also support the hypothesis that both self-report and informant-report provide characteristically different, but valid, information about the target. Informant-report and self-report show a lack of agreement on the specific combination of criteria present and low agreement on the presence of individual criteria and overall severity. Combined informant-target report may both provide information uniquely available to each reporter type and information uniquely available through the analysis of patterns of disagreement.

All BPD features appear to influence or be influenced by a broad range of life outcomes. The clinical picture of individuals with BPD features may benefit by considering factors from multiple functional domains. Additionally, self-report and informant report demonstrated different patterns of predictive utility with specific BPD features and aggregate severity measures both overall and between categories of outcomes. The inclusion of diverse outcomes within individual categories supports the interpretation of BPD features as potentially useful predictors of clinically relevant life outcomes across a broad range of functional domains and contexts. Used together, informant-target dyads may allow a more nuanced and useful assessment of BPD traits and may better predict clinically-significant factors and outcomes.

REFERENCES

Adler, G., Buie, D. (1979). Aloneness and borderline psychopathology: The possible relevance of child development issues. *International Journal of Psychoanalysis, 60,* 83–96.

Akiskal, H.S. (1994). The temperament borders of affective disorders. *Acta Psychiatrica Scandinavia, 89,* 32–37.

Akiskal, H.S., Chen, S.E., Davis, G.C., Puzantian, V.R., Kashgarian, M., Bolinger, J.M. (1985). Borderline: An adjective in search for a noun. *Journal of Clinical Psychiatry, 46*, 41–48.

Allard, K., Grann, M. (2000). Personality disorders and patient–informant concordance on DIP-Q self-report in a forensic psychiatric inpatient setting. *Nordic Journal of Psychiatry, 54*(3), 195-200.

American Psychiatric Association (Ed.). (2013). *Diagnostic and statistical manual of mental disorders: DSM-5.* American Psychiatric Pub.

Asnaani, A., Chelminski, I., Young, D., Zimmerman, M. (2007). Heterogeneity of Borderline Personality Disorder: Do the number of criteria met make a difference*? Journal of Personality Disorders, 21*(6), 615-625.

Bagge, C., Nickell, A., Stepp, S., Durrett, C., Jackson, K., Trull, T. J. (2004). Borderline Personality Disorder features predict negative outcomes 2 years later. *Journal of Abnormal Psychology, 113*(2), 279-288.

Balsis, S., Cooper, L. D., Oltmanns, T. F. (2015). Are informant reports of personality more internally consistent than self reports of personality? *Assessment*, *22*(4), 399 404.

Bateman, A.W., Fonagy, P. (2003). The development of an attachment-based treatment program for borderline personality disorder. *Bulletin of Menninger Clinic, 67*(3), 187-211.

Beck, A. T., Freeman, A. M. (1990). *Cognitive therapy of personality disorders.* New York, NY, US: Guilford Press.

Beck, A.T., Freeman, A., Davis, D.D., Associates (2004). *Cognitive therapy of personality disorders.* (2nd edition). New York: Guilford.

Benjamin, L. S. Friedrich, F. J. (1991). Contributions of Structural Analysis of Social Behavior (SASB) to the Bridge between Cognitive Science and a Science of Object Relations. In M. Horowitz (Ed.), *Person schemas and maladaptive interpersonal patterns* (pp. 379-412). Chicago, IL: University of Chicago Press.

Berlin, H.A., Rolls, E.T. (2004). Time perception, impulsivity, emotionality, and personality in self-harming borderline personality disorder patients. *Journal of Personality Disorders, 18*, 358-378.

Biskin, R. S., Frankenburg, F. R., Fitzmaurice, G. M., Zanarini, M. C. (2014). Pain in patients with borderline personality disorder. *Personality and Mental Health*, *8*(3), 218-227.

Black, G., Fossey, M. (2010). Women with borderline personality disorder in prison. *Mental Health Today*, 21-23.

Blais, M.A., Hilsenroth, M.J., Fowler, J.C. (1999). Diagnostic efficiency and hierarchical functioning of the DSM-IV borderline personality disorder criteria. *Journal of Nervous and Mental Disease, 187*(3), 167-73.

Bodner, E., Cohen-Fridel, S., Mashiah, M., Segal, M., Grinshpoon, A., Fischel, T., Iancu, I. (2015). The attitudes of psychiatric hospital staff toward hospitalization and treatment of patients with borderline personality disorder. *BMC Psychiatry, 15*(1), 2.

Brown, M. Z., Comtois, K. A., Linehan, M. M. (2002). Reasons for suicide attempts and nonsuicidal self-injury in women with borderline personality disorder. *Journal of Abnormal Psychology, 111*(1), 198.

Busch, A.J., Balsis, S., Morey, L.C., Oltmanns, T.F. (2015). Gender differences in Borderline Personality Disorder features in an epidemiological sample of adults age 55–64: Self versus informant report. *Journal of Personality Disorders*. e-View Ahead of Print.

Carlson, E. N., Kenny, D. A. (2012). Meta-accuracy: Do we know how others see us? In S. Vazire T.D. Wilson (Eds.), *Handbook of self-knowledge* (pp. 242-257). New York, NY: Guilford Press.

Carlson, E. N., Vazire, S., Oltmanns, T. F. (2013). Self-other knowledge asymmetries in personality pathology. *Journal of Personality, 81*(2), 155-170.

Cheavens, J.S., Rosenthal, M.Z., Daughters, S.D., Novak, J., Kosson, D., Lynch, T.R., et al. (2005). An analogue investigation of the relationships among perceived parental criticism, negative affect, and borderline personality disorder features: The role of thought suppression. *Behaviour Research and Therapy, 43*, 257–26

Clarkin, J. F., Yeomans, F. E., Kernberg, O. F. (2007). *Psychotherapy for borderline personality: Focusing on object relations*. Washington, DC: American Psychiatric Publishing.

Clifton, A., Pilkonis, P.A., McCarty, C. (2007). Social networks in borderline personality disorder. *Journal of Personality Disorders, 21*(4), 434-41.

Clifton, A., Turkheimer, E., Oltmanns, T. F. (2005). Self-and peer perspectives on pathological personality traits and interpersonal problems. *Psychological Assessment, 17*(2), 123.

Clifton, A., Turkheimer, E., Oltmanns, T.F. (2004). Contrasting perspectives on personality problems: Descriptions from the self and others. *Personality and Individual Differences, 36,* 1499–1514.

Costa, P. T., Jr., McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO PI-R) and NEO Five Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.

Dammann, G., Hügli, C., Selinger, J., Gremaud-Heitz, D., Sollberger, D., Wiesbeck, G. A., ... Walter, M. (2011). The self-image in borderline personality disorder: an in-depth qualitative research study. *Journal of Personality Disorders*, *25*(4), 517-527.

Darke, S., Ross, J., Williamson, A., Teesson, M. (2005). The impact of borderline personality disorder on 12-month outcomes for the treatment of heroin dependence. *Addiction*, *100*(8), 1121-1130.

Daruna, J. H. Barnes, P. A. (1993). "A neurodevelopmental view of impulsivity". In McCown, W.G., Johnson, J.L.; Shure, M.B.'s *The Impulsive Client: Theory,*

Research, and Treatment (pp. 23–37). Washington, DC: American Psychological Association.

Dolan-Sewell, R. T., Krueger, R. F., Shea, M. T. (2001). Co-occurrence with syndrome disorders. In: Livelsey W. J., editor. *Handbook of Personality Disorders* (pp. 84-104). New York, NY: Guilford Press.

Dutton, D. G., Denny-Keys, M. K., Sells, J. R. (2011). Parental personality disorder and its effects on children: A review of current literature. *Journal of Child Custody*, *8*(4), 268-283.

Ebner-Priemer, U.W., Kuo, J., Schlotz, W., Kleindienst, N., Rosenthal, M.Z., Detterer, L., Linehan, M.M., Bohus, M. (2008). Distress and affective dysregulation in patients with borderline personality disorder: a psychophysiological ambulatory monitoring study. *Journal of Nervous Mental Disorders, 196*(4), 314-20.

Edwards K., Smith E. E. (1996). A disconfirmation bias in the evaluation of arguments. *Journal of Personality and Social Psychology, 71*, 5-24.

Embretson, S. E., Reise, S. P. (2000). *Item response theory for psychologists*. Mahwah, NJ: L. Erlbaum Associates.

Fleiss, J.L., Cohen, J. (1973). The equivalence of weighted kappa and the intraclass correlation coefficient as measures of reliability. *Educational and Psychological Measurement, 33,* 613-619.

Frankenburg, F., Zanarini, M. (2011). Relationship between cumulative BMI and symptomatic, psychosocial, and medical outcomes in patients with borderline personality disorder. *Journal of Personality Disorders, 25*(4), 421-431.

Frankenburg, F.R., Fitzmaurice, G.M., Zanarini, M.C. (2014). The use of prescription opioid medication by patients with borderline personality disorder and axis II comparison subjects: a 10-year follow-up study. *Journal of Clinical Psychiatry, 75*(4), 357-61.

Fruzzetti, A. E., Shenk, C., Hoffman, P. D. (2005). Family interaction and the development of borderline personality disorder: a transactional model. *Developmental Psychopathology, 17*(4), 1007-1030.

Gill, M.J., Swann Jr., W.B., Silvera, D.H. (1998). On the genesis of confidence. *Journal of Personality and Social Psychology*, *75*(5), 1101-1114.

Grant, B. F., Chou, S. P., Goldstein, R. B., Huang, B., Stinson, F. S., Saha, T. D., … Ruan, W. J. (2008). Prevalence, correlates, disability, and comorbidity of DSM-IV Borderline Personality Disorder: Results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *The Journal of Clinical Psychiatry*, *69*(4), 533–545.

Gratz, K. L., Rosenthal, M. Z., Tull, M. T., Lejuez, C. W., Gunderson, J. G. (2006). An experimental investigation of emotion dysregulation in borderline personality disorder. *Journal of Abnormal Psychology*, *115*(4), 850.

Green, J. D., Sedikides, C. (2001). When do self-schemas shape social perception?: The role of descriptive ambiguity. *Motivation and Emotion, 25*, 67-83.

Grilo, C.M., Becker, D.F., Anez, L.M., McGlashan, T.H. (2004). Diagnostic efficiency of DSM-IV criteria for Borderline Personality Disorder: An evaluation in Hispanic men and women with substance use disorders. *Journal of Consulting and Clinical Psychology, 72*(1), 126-131.

Grilo, C.M., Martino, S., Walker, M.L., Becker, D.F., Edell, W.S., McGlashan, T.H. (1997). Controlled study of psychiatric comorbidity in psychiatrically hospitalized young adults with substance use disorders. *American Journal of Psychiatry, 154*, 305– 1307.

Haaland, V. Ø. and Landrø, N. I. (2009). Pathological dissociation and neuropsychological functioning in borderline personality disorder. *Acta Psychiatrica Scandinavica, 119*, 383–392.

Hambleton, R.K. Swaminathan, H., Rogers, H.J. (1991). *Fundamentals of item response theory*. Newbury Park, CA: Sage Publications.

Harned, M. S., Pantalone, D. W., Ward-Ciesielski, E. F., Lynch, T. R., Linehan, M. M. (2011). The prevalence and correlates of sexual risk behaviors and sexually transmitted infections in outpatients with borderline personality disorder. *Journal of Nervous and Mental Disease, 199*(11), 832-838.

Hays, R.D., Prince-Emburg, S., & Chen, H. (1998). *Rand-36 Health Status Inventory*. San Antonio, TX: The Psychological Corporation

Henry, C., Mitropoulou, V., New, A.S., Koenigsberg, H. W., Silverman, J., Siever, L. J. (2001). Affective instability and impulsivity in borderline personality and bipolar II disorders: similarities and differences. *Journal of Psychiatric Research, 35*, 307–312.

Hirschfeld, R.M.A., Davidson, L. (1988). Risk factors for suicide. In: Frances AJ, Hales RE, editors. *American Psychiatric Press review of psychiatry. Vol. 7.* (pp. 307–333). Washington, DC: American Psychiatric Press.

Hogan, J., Rybicki, S. L., Borman, W. C. (1998). Relations between contextual performance, personality, and occupational advancement. *Human Performance, 11*(2-3), 189.

Holmes, J. (2004). Disorganized attachment and borderline personality disorder: a clinical perspective. *Attachment and Human Development*, *6*(2), 181-190.

Horowitz, M. J. (1977). Cognitive and interactive aspects of splitting. *American Journal of Psychiatry, 134*, 549-553.

Howells, K. (1998). Cognitive behavioural interventions for anger, aggression and violence. In: N. Tarrier, A. Wells, G. Haddock (Eds.), *Treating complex cases* (pp. 295–318). Chichester, England: Wiley.

Hyler, S., Rieder, R., Williams, J., Spitzer, R., Lyons, M., Hendler, J. (1989). A comparison of clinical and self-report diagnoses of DSM-III personality disorders in 552 patients. *Comprehensive Psychiatry*, *30*(2), 170-178.

John, O. P., Robins, R. W. (1993). Determinants of interjudge agreement: The Big Five, observability, evaluativeness, and the unique perspective of the self. *Journal of Personality, 61*, 521-551.

Johnson, J., Cohen, P., Kasen, S., Ehrensaft, M., Crawford, T. (2006). Associations of parental personality disorders and axis I disorders with childrearing behavior. *Psychiatry: Interpersonal and Biological Processes*, *69*(4), 336-350.

Jordan, B. K., Schlenger, W. E., Fairbank, J. A., Caddell, J. M. (1996). Prevalence of psychiatric disorders among incarcerated women: Convicted felons entering prison. *Archives of General Psychiatry, 53*(6), 513-519.

Jovev, M., Jackson, H. (2006). The relationship of borderline personality disorder, life events and functioning in an Australian psychiatric sample. *Journal of Personality Disorders*, *20*(3), 205-217.

Kernberg, O. (1967). Borderline personality organization. *Journal of the American Psychoanalytical Association, 15*, 641-685.

Kernberg, O. (1984). *Severe Personality Disorders*. New Haven, CT: Yale University Press

Koenigsberg, H.W., Harvey, P.D., Mitropoulou, V., et al. (2002). Characterizing affective instability in borderline personality disorder. *American Journal of Psychiatry, 159,* 784–88.

Koenigsberg, H.W., Harvey, P.D., Mitropoulou, V., New, A.S., Goodman, M., Silverman, J., et al. (2001). Are the interpersonal and identity disturbances in the borderline personality disorder criteria linked to the traits of affective instability and impulsivity? *Journal of Personality Disorders, 15*(4), 358-370.

Kohut, H. (1971). *The analysis of the self.* New York, NY: International Universities Press.

Krueger, R. F., Watson, D., Barlow, D. H. (2005). Introduction to the special section: toward a dimensionally based taxonomy of psychopathology. *Journal of Abnormal Psychology, 114*(4), 491.

Krystal, H. (1988). *Integration and self -healing: Affect, trauma, alexithymia*. Hillsdale, NJ: The Analytic Press.

Labonte, E., Paris, J. (1993). Life events in borderline personality disorder. *Canadian Journal of Psychiatry, 38*(10), 638–640.

Larson, J. (1977). Evidence for a self-serving bias in the attribution of causality. *Journal of Personality, 43*(3), 430–441.

Leontieva, L., Gregory, R. (2013). Characteristics of patients with borderline personality disorder in a state psychiatric hospital. *Journal of Personality Disorders*, *27*(2), 222-232.

Levenson, J. C., Wallace, M. L., Fournier, J. C., Rucci, P., Frank, E. (2012). The role of personality pathology in depression treatment outcome with psychotherapy and pharmacotherapy. *Journal of Consulting and Clinical Psychology*, *80*(5), 719–729.

Levy, K. N., Edell, W. S., McGlashan, T. H. (2007). Depressive experiences in inpatients with borderline personality disorder. *Psychiatric Quarterly*, *78*(2), 129–143.

Lieb, K., Zanarini, M.C., Schmahl, C., Linehan, M.M., Bohus, M. (2004). Borderline personality disorder. *Lancet, 364*, 453 – 461.

Linehan, M. M. (1993). *Cognitive Behavioral Treatment of Borderline Personality Disorder.* New York, NY: Guilford Press.

Links P. S., Heslegrave R. J., Mitton J. E., Van Reekum R., Patrick J. (1995). Characteristics of Borderline Personality Disorder: a Canadian study. *Canadian Journal of Psychiatry, 33*, 336–354.

Lord, C., Ross, L., Lepper, M. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology, 37*, 2098-2109.

Lorey, B., Kaletsch, M., Pilgramm, S., Bischoff, M., Kindermann, S., et al. (2012). Confidence in emotion perception in point-light displays varies with the ability to perceive own emotions. *PLoS ONE, 7*(8), e42169.

Mahmood, S. R. (2012). Effects of personality disorder and impulsivity on emotional adaptations in prison among women offenders. *Psychiatric Quarterly, 83*(4), 467-480.

Martino, F., Caselli, G., Berardi, D., Fiore, F., Marino, E., Menchetti, M., ... Sassaroli, S. (2015). Anger rumination and aggressive behaviour in borderline personality disorder. *Personality and Mental Health, 9*(4), 277-287.

Masterson, J. F. (1988). *The search for the real self: Unmasking the personality disorders of our age*. London, England: Collier Macmillan.

McWilliams, L.A., Cox, B.J., Enns, M.W. (2003). Mood and anxiety disorders associated with chronic pain: an examination in a nationally representative sample. *Pain, 106*(1–2), 127-133.

Modestin, J., Furrer, R., Malti, T. (2004). Study on alexithymia in adult non-patients. *Journal of Psychosomatic Research, 56*(6), 707-709.

Morey, L. C. (2007). *Personality assessment inventory (PAI).* Lutz, FL: Psychological Assessment Resources.

Mortensen, J. A., Rasmussen, L. A. and Håberg, A. (2010). Trait impulsivity in female patients with borderline personality disorder and matched controls. *Acta Neuropsychiatrica, 22*, 139–149.

Muller, R.J. (2000). When a patient has no story to tell: Alexithymia. *Psychiatric Times, 17*(7).

Muthén, L. K.., Muthén, B. O. (2007). *Mplus User's Guide (Sixth Edition).* Los Angeles, CA: Muthén & Muthén.

New, A.S., aan het Rot, M., Ripoll, L.H., Perez-Rodriguez, M.M., Lazarus, S., Zipursky, E., Weinstein, S.R., Koenigsberg, H.W., Hazlett, E.A., Goodman, M., Siever, L.J. (2012). Empathy and alexithymia in borderline personality disorder: clinical and laboratory measures. *Journal of Personality Disorders, 26*(5), 660-75.

Newhill, C.E., Eack, S. M., Mulvey, E. P. (2009). Violent behavior in individuals with borderline personality disorder. *Journal of Personality Disorders, 23*, 541-554.

Oldham, J. M. (2006). Borderline personality disorder and suicidality. *American Journal of Psychiatry, 163*, 20–26.

Oldham, J.M., Skodol, A.E., Kellman, H.D., Hyler, S.E., Doidge, N., Rosnick, L., Gallaher, P.E. (1995). Comorbidity of Axis I and II disorders. *American Journal of Psychiatry, 152*, 571–578.

Oltmanns, J. R., Weinstein, Y., Oltmanns, T. F. (2014). Borderline personality pathology and insomnia symptoms in community-dwelling older adults. *Personality and Mental Health, 8*(3), 178-187.

Oltmanns, T. F., Gleason, M. E. J. (2011). Personality, health, and social adjustment in later life. In L.B. Cottler (Ed.), *Mental health in public health: The next 100 years* (pp.151-179). New York, NY: Oxford University Press.

Oltmanns, T. F., Turkheimer, E., Strauss, M. E. (1998). Peer assessment of personality traits and pathology. *Assessment, 5*, 53–65.

Oltmanns, T.F., Rodrigues, M., Weinstein, Y., Gleason, M. (2014). Prevalence of personality disorders at midlife in a community sample: Disorders and symptoms

reflected in interview, self, and informant reports. *Journal of Psychopathology and Behavioral Assessment, 36*(2), 177-188.

Oltmanns, T.F., Turkheimer, E. (2006). Perceptions of self and others regarding pathological personality traits. In R.F. Krueger and J.L. Tackett (Eds.), *Personality and Psychopathology* (pp. 71-111). New York: Guilford.

Østby, K. T. (2014). Personality disorders are important risk factors for disability pensioning. *Social Psychiatry and Psychiatric Epidemiology, 49*(12), 2003-2011.

Peersen, M., Gudjonsson, G. H., Sigurdsson, J. F. (2000). The relationship between general and specific attribution of blame for a 'serious' act and the role of personality. *Nordic Journal of Psychiatry, 54*, 25–30.

Pfohl, B., Blum, N., Zimmerman, M. (1997*). Structured interview for DSM-IV personality (SIDP-IV).* Washington, DC: American Psychiatric Association.

Pfohl, B., Stangl, D., Zimmerman, M. (1984). The implications of DSM-III personality disorders for patients with major depression. *Journal of Affective Disorders, 7,* 309–318

Pondé, M. P., Caron, J., Mendonça, M. S., Freire, A. C., Moreau, N. (2014). The relationship between mental disorders and types of crime in inmates in a Brazilian prison. *Journal of Forensic Sciences (Wiley-Blackwell), 59*(5), 1307-1314.

Pope Jr., H., Jonas, J., Hudson, J., Cohen, B., Gunderson, J. (1983). The validity of DSM-III borderline personality disorder: A phenomenologic, family history, treatment response, and long-term follow-up study. *Archives of General Psychiatry, 40*(1), 23-30.

Powers, A. D., Oltmanns, T. F. (2013). Borderline personality pathology and chronic health problems in later adulthood: The mediating role of obesity. *Personality Disorders: Theory, Research, and Treatment, 4*(2), 152-159.

Preti, E., Prunas, A., De Panfilis, C., Marchesi, C., Madeddu, F., Clarkin, J. F. (2015). The facets of identity: Personality pathology assessment through the Inventory of Personality Organization. *Personality Disorders: Theory, Research, and Treatment, 6*(2), 129-140.

Raiz, L. (2006). Health Care Poverty. *Journal of Sociology and Social Welfare*, *33*(4), 87-104.

Rosenthal, M. Z., Cheavens, J. S., Lejuez, C. W., Lynch, T. R. (2005). Thought suppression mediates the relationship between negative affect and borderline personality disorder symptoms. *Behaviour Research and Therapy, 43*, 1173–1185.

Rosenthal, M., Gratz, K., Kosson, D., Cheavens, J., Lejuez, C., Lynch, T. (2008). Borderline personality disorder and emotional responding: A review of the research literature. *Clinical Psychology Review*, *28*, 75–91.

Rothschild, L., Cleland, C., Haslam, N., & Zimmerman, M. (2003). A taxometric study of Borderline Personality Disorder. *Journal of Abnormal Psychology*, *112*(4), 657-666.

Ruggero, C. J., Zimmerman, M., Chelminski, I., Young, D. (2010). Borderline Personality Disorder and the misdiagnosis of Bipolar Disorder. *Journal of Psychiatric Research, 44*(6), 405–408.

Ruiz-Hernández, J. A., García-Jiménez, J. J., Llor-Esteban, B., Godoy-Fernández, C. (2015). Risk factors for intimate partner violence in prison inmates. *The European Journal of Psychology Applied to Legal Context, 7,* 41-49.

Runeson, B., Beskow, J. (1991). Borderline personality disorder in young Swedish suicides. *Journal of Nervous and Mental Disease, 179*(3), 153-156.

Samuel, D. B., Widiger, T. A. (2010). Comparing personality disorder models: Cross-method assessment of the FFM and DSM-IV-TR. *Journal of Personality Disorders, 24*(6), 721–745.

Sansone, R. A., Chu, J. W., Wiederman, M. W. (2011). Sexual behaviour and borderline personality disorder among female psychiatric inpatients. *International Journal of Psychiatry in Clinical Practice, 15*(1), 69-73.

Sansone, R. A., Leung, J. S., Wiederman, M. W. (2012). Employment histories among patients with borderline personality disorder symptomatology. *Journal of Vocational Rehabilitation, 37*(2), 131-137.

Sansone, R. A., Reddington, A., Sky, K., Wiederman, M. W. (2007). Borderline personality symptomatology and history of domestic violence among women in an internal medicine setting. *Violence and Victims, 22*(1), 120-126.

Sansone, R. A., Sansone, L. A. (2010). Emotional hyper-reactivity in Borderline Personality Disorder. *Psychiatry (Edgmont), 7*(9), 16–20.

Sansone, R. A., Sansone, L. A. (2012). Employment in Borderline Personality Disorder. *Innovations in Clinical Neuroscience, 9*(9), 25-29.

Sansone, R. A., Wiederman, M. W. (2013). Losing a job on purpose: relationships with borderline personality symptomatology. *Early Intervention in Psychiatry, 7*(2), 210-212.

Sansone, R.A., Sansone, L.A. (2007). Borderline personality and the pain paradox. *Psychiatry (Edgmont), 4*(4), 40–46.

Sansone, R.A., Sansone, L.A. (2009). Borderline personality and criminality. *Psychiatry (1550-5952), 6*(10), 16-20.

Santangelo, P., Bohus, M., Ebner-Priemer, U.W. (2014). Ecological momentary assessment in borderline personality disorder: a review of recent findings and methodological challenges. *Journal of Personality Disorders, 28*(4), 555-76.

Santangelo, P., Reinhard, I., Mussgay, L., Steil, R., Sawitzki, G., Klein, C., Trull, T.J., Bohus, M., Ebner-Priemer, U.W. (2014). Specificity of affective instability in patients with borderline personality disorder compared to posttraumatic stress disorder, bulimia nervosa, and healthy controls. *Journal of Abnormal Psychology, 123*(1), 258-272.

Santiago, C. D., Kaltman, S., Miranda, J. (2013). Poverty and mental health: how do low-income adults and children fare in psychotherapy? *Journal of Clinical Psychology, 69*(2), 115-126.

Saradjian, J., Murphy, N., McVey, D. (2013). Delivering effective therapeutic interventions for men with severe personality disorder within a high secure prison. *Psychology, Crime, and Law, 19*(5-6), 433-447.

Schilling, L., Wingenfeld, K., Löwe, B., Moritz, S., Terfehr, K., et al. (2012) Normal mind-reading capacity but higher response confidence in borderline personality disorder patients. *Psychiatry and Clinical Neurosciences, 66*, 322–327.

Sedikides, C., Green, J.D. (2000). On the self-protective nature of inconsistency-negativity management: Using the person memory paradigm to examine self-referent memory. *Journal of Personality and Social Psychology, 79*(6), 906-922.

Sharp, C., Steinberg, L., Frueh, B.C., Michonski, J., Fowler, J.C., Oldham, J.M. (2014). An investigation of differential item functioning across gender of BPD criteria. *Journal of Abnormal Psychology, 123*(1), 231-236.

Siegel, J. P. (2006). Dyadic splitting in partner relational disorders. *Journal of Family Psychology, 20*, 418- 422.

Silk, K. R. (2010). The quality of depression in borderline personality disorder and the diagnostic process. *Journal of Personality Disorders, 24*(1), 25-37.

Sio, I. T., Chanen, A. M., Killackey, E. J., Gleeson, J. (2011). The relationship between impulsivity and vocational outcome in outpatient youth with borderline personality features. *Early Intervention in Psychiatry, 5*(3), 249-253.

Skodol, A E., Oldham, J.M., Gallaher, P.E. (1999). Axis II comorbidity of substance use disorders among patients referred for treatment of personality disorders. *American Journal of Psychiatry, 156*, 733–8.

Skodol, A. E., Pagano, M. E., Bender, D. S., Shea, M. T., Gunderson, J. G., Yen, S., ... McGlashan, T. H. (2005). Stability of functional impairment in patients with schizotypal, borderline, avoidant, or obsessive-compulsive personality disorder over two years. *Psychological Medicine, 35*(3), 443-451.

Skodol, A.E., Gunderson, J.G., McGlashan, T.H., Dyck, I.R., Stout, R.L., Bender, D.S., Grilo, C.M., Shea, T., Zanarini, M.C., Morey, L.C., Sanislow, C.A., Oldham, J.M. (2002). Functional impairment in patients with Schizotypal, Borderline, Avoidant, or Obsessive-Compulsive Personality Disorder. *American Journal of Psychiatry, 159,* 276-283.

Skodol, A.E., Stout, R.L., McGlashan, T.H., Grilo, C.M., Gunderson, J.G., Shea, M.T., Morey, L.C., Zanarini, M.C., Dyck, I.R., Oldham, J.M. (1999). Co-occurrence of mood and personality disorders: a report from the Collaborative Longitudinal Personality Disorders Study (CLPS). *Depression and Anxiety, 10,* 175–182.

Soloff, P. H., Fabio, A., Kelly, T. M., Malone, K. M., Mann, J. J. (2005). High-lethality status in patients with borderline personality disorder. *Journal of Personality Disorders, 19*(4), 386-399.

Soloff, P.H., Meltzer, C.C., Becker, C., Greer, P.J., Kelly, T.M., Constantine, D. (2003). Impulsivity and prefrontal hypometabolism in borderline personality disorder. *Psychiatry Research: Neuroimaging, 123*(3), 153–163.

South, S. C., Oltmanns, T. F., Turkheimer, E. (2003). Personality and the derogation of others: Descriptions based on self-and peer report. *Journal of Research in Personality, 37*(1), 16-33.

Stepp, S.D., Pilkonis, P.A., Yaggi, K.E., Morse, J.Q., Feske, U. (2009). Interpersonal and emotional experiences of social interactions in borderline personality disorder. *Journal of Nervous Mental Disorders, 197*(7), 484-91.

Tetley, A., Jinks, M., Huband, N., Howells, K., McMurran, M. (2012). Barriers to and facilitators of treatment engagement for clients with personality disorder: A Delphi survey. *Personality and Mental Health, 6*(2), 97-110.

Thissen, D., Chen, W.H, Bock, R.D. (2003). *Multilog (version 7).* Lincolnwood, IL: Scientific Software International.

Thomas, G. V. (1996). The effects of mood states on self-report, interview, and informant assessments of personality disorders. *Dissertation Abstracts International, 57B–59B,* 2168.

Trestman, R. L., Ford, J., Zhang, W., Wiesbrock, V. (2007). Current and lifetime psychiatric illness among inmates not identified as acutely mentally ill at intake in Connecticut's jails. *Journal of the American Academy of Psychiatry and the Law*, *35*(4), 490-500.

Trull, T. J., Solhan, M. B., Tragesser, S. L., Jahng, S., Wood, P. K., Piasecki, T. M., Watson, D. (2008). Affective instability: Measuring a core feature of borderline personality disorder with ecological momentary assessment. *Journal of Abnormal Psychology, 117,* 647-661.

Trull, T.J., Sher, K.J., Minks-Brown, C., Durbin, J., Burr, R. (2000). Borderline personality disorder and substance use disorders: a review and integration. *Clinical Psychology Review, 20,* 235–253.

Tuckey, M., Brewer, N. (2003). The influence of schemas, stimulus ambiguity, and interview schedule on eyewitness memory over time. *Journal of Experimental Psychology: Applied, 9*(2), 101-118.

Tyrer, P., Gunderson, J., Lyons, M., Tohen, M. (1997). Special feature: Extent of comorbidity between mental state and personality disorders. *Journal of Personality Disorders, 11*, 242–59.

Vazire, S. (2006). Informant reports: A cheap, fast, and easy method for personality assessment. *Journal of Research in Personality, 40*, 472-481.

Vazire, S., Mehl, M. R. (2008). Knowing me, knowing you: the accuracy and unique predictive validity of self-ratings and other-ratings of daily behavior. *Journal of Personality and Social Psychology, 95*(5), 1202–1216.

Walter, M., Gunderson, J. G., Zanarini, M. C., Sanislow, C. A., Grilo, C. M., McGlashan, T. H., ... Skodol, A. E. (2009). New onsets of substance use disorders in borderline personality disorder over 7 years of follow-ups: findings from the Collaborative Longitudinal Personality Disorders Study. *Addiction*, *104*(1), 97-103.

Weissnab, M.M. (1999). *SAS-SR Question Booklet*. North Torawanda, NY: Multi Health Systems.

Whisman, M. A., Schonbrun, Y. C. (2009). Social consequences of borderline personality disorder symptoms in a population-based survey: Marital distress, marital violence, and marital disruption. *Journal of Personality Disorders, 23*, 410-415.

Widiger, T.A., Hurt, S., Frances, A., Clarkin, J., Gilmore, M. (1984). Diagnostic efficiency and DSM-III. *Archives of General Psychiatry, 41*(10), 1005-1012.

Wilkowski, B.M. Robinson, M.D. (2008). The cognitive basis of trait anger and reactive aggression: An integrative analysis. *Personality and Social Psychology Review, 12*, 3–28.

Winograd, G., Cohen, P., Chen, H. (2008). Adolescent borderline symptoms in the community: prognosis for functioning over 20 years. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 49*(9), 933-941.

Yen, S., Shea, M.T., Pagano, M., Sanislow, C.A., Grilo, C.M., McGlashan, T.H. et al. (2003). Axis I and axis II disorders as predictors of prospective suicide attempts: findings from the collaborative longitudinal personality disorders study. *Journal of Abnormal Psychology, 112(3)*, 375–381.

Zanarini, M. C., Gunderson, J. G., Frankenburg, F. R. (1990). Cognitive features of borderline personality disorder. *American Journal of Psychiatry, 147*, 57–63.

Zanarini, M.C., Frankenburg, F.R., Dubo, E.D., Sickel, M.A., Trikha, A., Levin, A., Reynolds, V. (1998). Axis I comorbidity of borderline personality disorder. *American Journal of Psychiatry, 152*, 1733–1739.

Zanarini, M.C., Frankenburg, F.R., Hennen, J., Reich, D.B., Silk, K.R. (2004). Axis I comorbidity in patients with borderline personality disorder: 6 year follow-up and prediction of time to remission. *American Journal of Psychiatry, 161*, 2108–2114.

Zimmerman, M., Mattia, J.I. (1999). Axis I comorbidity and borderline personality disorder. *Comprehensive Psychiatry, 40*, 245–252.

APPENDIX A

TABLES

Table 1. Item Function Across Self- and Informant-Report.

Criterion	Self		Informant		Kappa
	a(SE)	*b(SE)*	*a(SE)*	*b(SE)*	
1) I will do almost anything to keep those that l love from leaving me	0.83(0.10)	1.58(0.18)	0.58(0.09)†	1.36(0.22)	0.08*
2) In close relationships (with friends and family members), I often switch back and forth between loving a person and hating him or her	1.87(0.28)	2.56(0.22)	2.73(0.28)†	1.61(0.08)†	0.09*
3) Compared to others, my opinions and preferences change more frequently	1.21(0.14)	2.06(0.18)	1.45(0.17)	2.11(0.17)	0.07*
4) I am impulsive and have done things that could be dangerous to me	1.39(0.18)	2.46(0.23)	2.00(0.21)†	1.75(0.11)†	0.09*
5) I have threatened to hurt, or kill myself	2.06(0.39)	2.98(0.31)	2.93(0.58)	2.39(0.16)†	0.16*
6) I have strong mood swings in response to events; I have frequent periods of intense sadness, irritation or anxiety	2.38(0.24)	1.61(0.08)	2.51(0.21)	1.00(0.05)†	0.15*
7) I feel emotionally unfulfilled or that life is meaningless	1.35(0.18)	2.48(0.24)	1.88(0.18)†	1.52(0.09)†	0.15*
8) I have sudden, intense outbursts of anger	2.67(0.34)	2.08(0.12)	2.45(0.24)	1.52(0.07)†	0.10*
9) When I am under stress, I may become paranoid or suspicious of people I usually trust, or have other strange experiences that are hard to explain	2.31(0.29)	2.05(0.12)	2.20(0.22)	1.56(0.09)†	0.10*

* Significant at <0.01
† Significant at <0.05

The strength of agreement between self and informant can be observed by the strength of the Kappas: <0.00 = Poor; 0.00-0.20 = Slight; 0.21-0.40 = Fair; 0.41-0.60 = Moderate; 0.61-0.80 = substantial and 0.81-1.00 = almost perfect (Cyr & Francis, 1992).

Table 2. Self-Other Agreement and Compositions of Unique Patterns of Criteria Endorsement.

Criterion 1: Fear of Abandonment	Criterion 2: Unstable Relationships	Criterion 3: Unstable Identity	Criterion 4: Impulsivity	Criterion 5: Parasuicidal Behaviors	Criterion 6: Unstable Affect	Criterion 7: Chronic Emptiness	Criterion 8: Anger Dysregulation	Criterion 9: Paranoid Ideation	Kappa Value	Approx. Sig.	
						X			0.068	.006	*
					X	X			0.085	.001	*
	X								0.106	.000	*
X									0.142	.000	*
X								X	0.064	.010	*
X							X		0.130	.000	*
X		X							0.054	.021	†
							X		-0.006	.813	
						X		X	-0.002	.944	
					X				0.001	.968	
					X			X	-0.002	.926	
					X		X		-0.001	.944	
					X		X	X	-0.001	.980	
					X	X		X	-0.001	.972	
					X	X		X	-0.001	.960	
			X						-0.013	.602	
			X			X	X		-0.001	.980	
			X		X				-0.002	.923	
		X							-0.020	.348	
		X					X	X	-0.001	.980	
		X				X			-0.001	.960	
		X			X				-0.002	.937	
		X			X		X		-0.001	.980	

		X			X	X	X		-0.001	.972
		X	X		X				-0.001	.972
		X	X		X	X			-0.001	.960
	X				X				-0.001	.952
	X				X	X	X		-0.001	.966
	X		X				X		-0.001	.980
	X		X		X		X		-0.001	.980
	X	X							-0.001	.952
	X	X			X				-0.001	.980
	X	X			X			X	-0.001	.972
	X	X			X		X	X	-0.001	.980
	X	X			X	X			-0.001	.966
	X	X	X		X	X		X	-0.001	.980
X						X			-0.008	.736
X					X				0.107	.000
X					X			X	-0.002	.923
X					X		X		-0.001	.941
X					X	X			-0.002	.921
X					X	X		X	-0.001	.948
X					X	X	X		-0.001	.966
X					X	X	X	X	-0.001	.966
X			X						-0.007	.757
X			X					X	-0.001	.960
X			X				X		-0.001	.972
X			X			X			-0.001	.972
X			X		X				-0.001	.972
X			X		X		X		-0.001	.972
X			X		X	X			-0.001	.980
X			X		X	X		X	-0.001	.980

X			X	X			X	X	-0.001	.980
X		X						X	-0.002	.941
X		X					X		-0.001	.972
X		X				X			-0.001	.972
X		X			X				-0.004	.872
X		X			X			X	-0.001	.980
X		X			X		X		-0.001	.966
X		X			X	X			-0.001	.980
X		X	X						-0.001	.966
X		X	X				X		-0.001	.980
X		X	X		X	X	X	X	-0.001	.980
X	X								-0.002	.944
X	X						X		-0.001	.980
X	X				X			X	-0.001	.972
X	X		X						-0.001	.980
X	X		X		X		X	X	-0.001	.972
X	X	X	X		X		X	X	-0.001	.972
X	X	X	X		X	X	X	X	-0.001	.972
X	X	X	X	X	X	X	X	X	-0.001	.980
								Average Kappa	0.009	

* Significant at <0.01

† Significant at <0.05

The strength of agreement between self and informant can be observed by the strength of the Kappas: <0.00 = Poor; 0.00-0.20 = Slight; 0.21-0.40 = Fair; 0.41-0.60 = Moderate; 0.61-0.80 = substantial and 0.81-1.00 = almost perfect (Cyr & Francis, 1992).

Table 3. Number of Overall Significant Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
Outcome Domains	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Domestic Conflict	1	0	3	6	3	5	0	4	4	5	4	7	0	7	5	6	1	6
Finance and Employment	0	1	2	1	1	4	1	1	1	3	4	2	3	2	1	1	4	3
Health	6	2	5	8	7	8	11	6	6	7	13	11	8	7	10	4	12	9
Substance Use	2	0	3	3	6	2	10	7	0	1	3	6	2	3	7	5	1	1
Legal and Criminal	0	0	3	1	2	1	1	3	0	0	2	3	0	3	0	3	2	0
Psychological and Mental Health	5	4	7	7	9	4	8	7	8	7	10	10	9	10	9	9	8	7
Relationships	1	3	0	2	3	0	0	1	4	1	0	0	0	1	0	3	3	2
Identity	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1
Intelligence and Achievement	1	0	1	0	1	1	1	0	1	0	0	1	0	0	1	0	2	0
Total # Sig. Outcomes	17	10	25	28	33	25	33	30	25	25	37	41	23	34	34	32	34	29

Table 4. Number of Significant Binary Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
Outcome Domains	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Domestic Conflict	1	0	1	3	0	2	0	1	1	3	2	4	0	4	3	4	1	3
Substance Use	2	0	3	3	6	2	10	7	0	1	3	6	1	3	5	5	1	1
Finance and Employment	0	0	1	0	0	1	0	0	0	1	1	0	1	0	0	1	0	1
Health	1	0	1	2	2	3	5	1	2	1	6	4	2	1	3	1	6	3
Legal and Criminal	0	0	2	1	0	1	1	3	0	0	2	3	0	3	0	3	2	0
Psychological	0	0	2	1	2	2	2	3	1	3	3	3	1	3	1	3	1	2
Relationships	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1
Total # of Sig. Outcomes	4	0	10	10	11	11	18	16	4	9	17	20	5	14	12	17	11	11

Table 5. Number of Significant Continuous Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
Outcome Domains	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Domestic Conflict	0	0	2	3	3	3	0	3	3	2	2	3	0	3	2	2	0	3
Finance and Employment	0	1	1	1	1	3	1	1	1	2	3	2	2	2	1	0	4	2
Health	5	2	4	6	5	5	6	5	4	6	7	7	6	6	7	3	6	6
Substance Use	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0
Legal and Criminal	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychological and Mental Health	5	4	5	6	7	2	6	4	7	4	7	7	8	7	8	6	7	5
Relationships	1	3	0	2	2	0	0	0	4	1	0	0	0	1	0	3	3	1
Identity	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1
Intelligence and Achievement	1	0	1	0	1	1	1	0	1	0	0	1	0	0	1	0	2	0
Total # Sig. Outcomes	13	10	15	18	22	14	15	14	21	16	20	21	18	20	22	15	23	18

*Significant at <0.05

Table 6. Significance of Domestic Conflict Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
	Self	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Binary Outcomes																		
Target Did Partner Violence	0.03 *	0.07	0.02 *	0.03 *	0.07	<0.01 *	0.07	<0.01 *	<0.01 *	<0.01 *	<0.01 *	<0.01 *	0.09	<0.01 *	<0.01 *	<0.01 *	<0.01 *	<0.01 *
Target Did Partner Violence - Informant	0.21	0.51	0.20	0.01 *	0.78	0.05 *	0.74	0.67	0.14	0.03 *	0.03 *	<0.01 *	0.13	<0.01 *	0.03 *	<0.01 *	0.59	<0.01 *
Target Threatened Partner	0.16	0.08	0.11	0.01 *	0.80	0.07	0.25	0.07	0.88	0.02 *	0.16	<0.01 *	0.45	<0.01 *	0.03 *	<0.01 *	0.66	0.02 *
Target Threatened Partner - Informant	0.66	0.15	0.69	0.68	0.47	0.60	0.59	0.36	0.51	0.86	0.99	0.02 *	0.75	0.01 *	0.35	<0.01 *	0.76	0.22
Continuous Outcomes																		
Number of partner aggression events in last 12 months	0.18	0.1	<0.01 *	<0.01 *	0.01 *	<0.01 *	0.13	<0.01 *	0.01 *	<0.01 *	<0.01 *	<0.01 *	0.33	<0.01 *	<0.01 *	<0.01 *	0.18	<0.01 *
Number of physical partner aggresion events in last 12 months	0.62	0.38	0.19	<0.01 *	0.04 *	<0.01 *	0.75	<0.01 *	<0.01 *	0.75	0.5	0.02 *	0.97	<0.01 *	0.34	0.37	0.7	<0.01 *
Number of psychological partner aggression events in last 12 months	0.18	0.06	<0.01 *	<0.01 *	0.01 *	0.02 *	0.12	<0.01 *	0.03 *	<0.01 *	<0.01 *	<0.01 *	0.3	<0.01 *	<0.01 *	<0.01 *	0.17	<0.01 *

*Significant at <0.05

Table 7. Significance of Relationship Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
	Self	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Binary Outcomes																		
Abortion Ever	0.57	0.53	0.12	0.16	0.03 *	0.76	0.12	0.03 *	0.60	0.39	0.97	0.17	0.46	0.88	0.40	0.12	0.66	0.79
Couples Counseling Ever	0.54	0.07	0.51	0.71	0.49	0.88	0.05	0.71	0.86	0.08	0.51	0.26	0.92	0.40	0.71	0.94	0.51	0.28
Is this person in a straight or gay relationship?	0.74	0.38	0.42	0.69	0.46	0.95	0.95	0.40	0.06	0.87	0.37	0.94	0.93	0.69	0.44	0.65	0.12	0.78
Married Ever	0.10	0.15	0.48	0.48	0.98	0.85	0.69	0.31	0.59	0.64	0.06	0.33	0.31	0.48	0.41	0.93	0.93	0.02 *
Continuous Outcomes																		
# of People in Inner Social Circle	0.26	0.04 *	0.34	0.36	0.26	0.69	0.73	0.93	0.14	0.3	0.26	0.28	0.22	0.01 *	0.63	<0.01 *	<0.01 *	0.26
Age first engaged in sexual activity	0.34	0.3	0.66	0.86	0.4	0.83	0.5	0.16	0.34	0.59	0.6	0.5	0.59	0.27	0.56	<0.01 *	<0.01 *	<0.01 *
Age First Married	0.15	0.28	0.86	0.6	0.41	0.16	0.88	0.85	0.05 *	0.92	0.29	0.57	0.74	0.26	0.81	0.91	0.63	0.91
Age first divorced	0.04 *	0.05	0.52	0.84	0.95	0.49	0.47	0.39	0.04 *	0.65	0.97	0.2	0.55	0.95	0.13	0.82	0.1	0.12
Number of biological children	0.51	0.17	0.89	0.27	0.49	0.71	0.41	0.74	0.05	0.58	0.84	0.75	0.4	0.3	0.75	0.31	0.94	0.34
Number of children raised	0.65	0.02 *	0.45	0.04 *	0.12	0.69	0.88	0.53	0.17	0.43	0.48	0.55	0.54	0.78	0.67	<0.01 *	<0.01 *	0.65
Number of step-children	0.77	<0.01 *	0.85	0.02 *	0.52	0.22	0.72	0.54	0.5	0.04 *	0.62	0.31	0.87	0.44	0.65	0.88	0.28	0.06
Number of times divorced	0.82	0.58	0.72	0.33	0.05 *	0.92	0.15	0.96	0.01 *	0.97	0.91	0.41	0.76	0.89	0.16	0.21	0.62	0.28
Number of times widowed	0.66	0.66	0.79	0.81	0.58	0.64	0.22	0.19	0.74	0.2	0.97	0.34	0.52	0.62	0.82	0.82	0.3	0.77
Number times married	0.81	0.1	0.45	0.05	0.02 *	0.81	0.28	0.85	<0.01 *	0.05	0.79	0.36	0.86	0.9	0.16	0.5	0.49	0.54
Years Longest Lived Together	0.13	0.54	0.24	0.2	0.84	0.43	0.89	0.19	0.08	0.67	0.25	0.55	0.41	0.83	0.19	0.45	0.05	0.21

*Significant at <0.05

Table 8. Significance of Legal and Criminal Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
	Self	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Binary Outcomes																		
Have you ever been legally convicted of a crime?	0.65	0.41	0.05 *	0.22	0.64	0.27	0.12	0.03 *	0.59	0.09	0.25	0.01 *	0.83	0.02 *	0.31	0.03 *	0.75	0.40
Any time on legal probation?	0.59	0.28	0.86	0.17	0.80	0.34	0.07	0.20	0.97	0.08	0.33	0.03 *	0.82	0.25	0.43	0.07	0.22	0.56
Committed Theft Crime - Ever	0.27	0.94	0.85	0.69	0.98	0.23	0.82	0.14	0.52	0.09	0.02 *	0.09	0.41	<0.01 *	0.56	0.55	0.58	0.90
Committed Violent Crime - Ever	0.08	0.41	0.05	0.26	0.12	0.08	0.01 *	0.01 *	0.17	0.16	0.02 *	0.15	0.56	<0.01 *	0.06	0.01 *	0.19	0.15
Have you spent time in jail or prison?	0.13	0.51	0.04 *	0.01 *	0.2	0.04 *	0.2	<0.01 *	0.8	0.12	0.48	0 *	0.47	0.24	0.8	<0.01 *	0.03 *	0.28
Problems with the police and a court appearance	0.69	0.17	0.55	0.7	0.52	0.73	0.4	0.54	0.49	0.4	0.76	0.27	0.14	0.33	0.84	0.8	0.01 *	0.19
Continuous Outcomes																		
Age First Convicted	0.73	0.17	0.92	0.23	0.01 *	0.31	0.87	0.39	0.72	0.7	0.88	0.16	0.71	0.21	0.51	0.97	0.51	0.06
Driving violations or accidents (# of times in past 5 years)	0.6	0.07	0.16	0.2	0.02 *	0.37	0.79	0.6	0.6	0.52	0.28	0.54	0.22	0.17	0.95	0.82	0.85	0.67
Times Convicted	0.1	0.49	0.02 *	0.3	0.51	0.11	0.41	0.82	0.47	0.19	0.53	0.38	0.08	0.11	0.53	0.95	0.07	0.97

*Significant at <0.05

Table 9. Significance of Financial and Employment Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
	Self	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Binary Outcomes																		
Ever Served in Armed Services?	0.83	0.53	0.91	0.83	0.95	0.43	0.83	0.13	0.33	0.28	0.98	0.12	0.73	0.65	0.45	0.01 *	0.46	0.39
Are you unable to work due to a disability or impairment?	0.15	0.76	0.04 *	0.48	1.00	0.01 *	0.29	0.09	0.20	0.01 *	<0.01 *	0.06	0.01 *	0.07	0.28	0.65	0.16	0.03 *
Continuous Outcomes																		
How long did you work for your most recent employer?	0.09	0.86	0.52	0.10	0.95	0.26	0.87	0.39	0.64	0.82	0.44	0.66	0.23	0.30	0.44	0.95	0.11	0.52
How many different jobs have you held (different employers) since you were 18?	0.93	0.27	<0.01 *	0.29	0.01 *	0.48	0.03 *	0.32	0.4	0.85	0.06	0.17	0.63	0.8	0.02 *	0.48	0.01 *	0.57
How many times have you been fired?	0.18	0.03 *	0.52	0.3	0.23	0.22	0.68	0.02 *	0.16	0.72	0.41	0.51	0.1	0.06	0.5	0.07	0.26	0.28
How many years did you work in this field?	0.09	0.18	0.42	0.94	0.64	0.99	0.93	0.94	0.24	0.34	0.2	0.28	0.87	0.53	0.87	0.73	0.15	0.17
How many years have you spent working full-time since you were 18?	0.35	0.4	0.08	0.75	0.31	0.01 *	0.12	0.63	0.02 *	0.73	0.02 *	0.07	0.01 *	0.2	0.59	0.84	0.01 *	0.17
Approximate total household income	0.11	0.43	0.7	0.04 *	0.09	<0.01 *	0.39	0.1	0.28	0.02 *	<0.01 *	<0.01 *	<0.01 *	<0.01 *	0.6	0.12	<0.01 *	<0.01 *
What is your own approximate annual income?	0.56	0.21	0.49	0.48	0.4	<0.01 *	0.81	0.49	0.07	0.04 *	<0.01 *	<0.01 *	0.28	<0.01 *	0.94	0.27	<0.01 *	<0.01 *

*Significant at <0.05

Table 10. Significance of Identity Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
Continuous Variables	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Racial Identity Centrality	0.28	0.86	0.51	0.82	0.82	0.55	0.33	0.26	0.38	0.10	0.56	0.22	0.70	0.66	0.86	0.86	0.58	0.74
Religiosity / Spirituality	0.81	0.23	0.74	0.90	0.46	0.30	0.41	0.95	0.43	0.31	0.66	0.16	0.23	0.65	0.32	0.32	0.37	0.83
Social Desirability Scale	0.04 *	0.21	<0.01 *	0.06	<0.01 *	0.51	<0.01 *	<0.01 *	0.02 *	<0.01 *	<0.01 *	<0.01 *	<0.01 *	<0.01 *	0.05 *	<0.01 *	<0.01 *	0.01 *

*Significant at <0.05

Table 11. Significance of Intelligence and Achievement Scores by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment		Unstable Relationships		Unstable Identity		Impulsivity		Parasuicidal and Self-Harm		Unstable Affect		Chronic Emptiness		Anger Dyscontrol		Paranoid Ideation	
	Self	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**	**Self**	**Inf.**
Continuous Outcomes																		
Percentile of WASI Matrix Reasoning	<0.01 *	0.51	0.06	0.87	0.63	0.84	0.05 *	0.95	<0.01 *	0.63	0.23	0.01 *	0.91	0.79	<0.01 *	0.12	<0.01 *	0.10
Percentile of WASI Similarities	0.10	0.36	0.21	0.06	0.23	0.92	0.31	0.91	0.13	0.38	0.65	0.59	0.31	0.34	0.26	0.58	0.12	0.40
Standard Score of WTAR	0.06	0.90	0.02 *	0.30	0.04 *	<0.01 *	0.44	0.83	0.38	0.62	0.55	0.82	0.20	0.49	0.18	0.50	<0.01 *	0.44

*Significant at <0.05

Table 12. Number of Overlapping Overall Significant Outcomes by BPD Criterion via Self- and Informant-Report

	Fear of Abandonment	Unstable Relationships	Unstable Identity	Impulsivity	Parasuicidality and Self-Harm	Unstable Affect	Chronic Emptiness	Anger Dyscontrol	Paranoid Ideation
Binary Outcomes									
Domestic Conflict	0	1	0	0	1	2	0	3	1
Substance Use	0	0	1	6	0	3	1	2	0
Finance and Employment	0	0	0	0	0	0	0	0	0
Health	0	0	0	1	1	2	1	0	2
Legal and Criminal	0	1	0	1	0	0	0	0	0
Psychological	0	0	2	2	1	3	1	1	1
Relationships	0	0	0	0	0	0	0	0	0
Continuous Outcomes									
Domestic Conflict	0	2	3	0	2	2	0	2	0
Finance and Employment	0	0	0	0	0	2	1	0	2
Health	2	4	4	4	3	6	6	3	6
Substance Use	0	0	0	0	0	0	0	0	0
Legal and Criminal	0	0	0	0	0	0	0	0	0
Psychological and Mental Health	2	5	1	3	4	6	7	6	5
Relationships	0	0	0	0	0	0	0	0	1
Identity	0	0	0	1	1	1	1	1	1
Intelligence and Achievement	0	0	1	0	0	0	0	0	0
Total # Overlap	4	13	12	18	13	27	18	18	19

APPENDIX B

FIGURES

Figure 1. Test Information Function for Self- and Informant-Reported Data

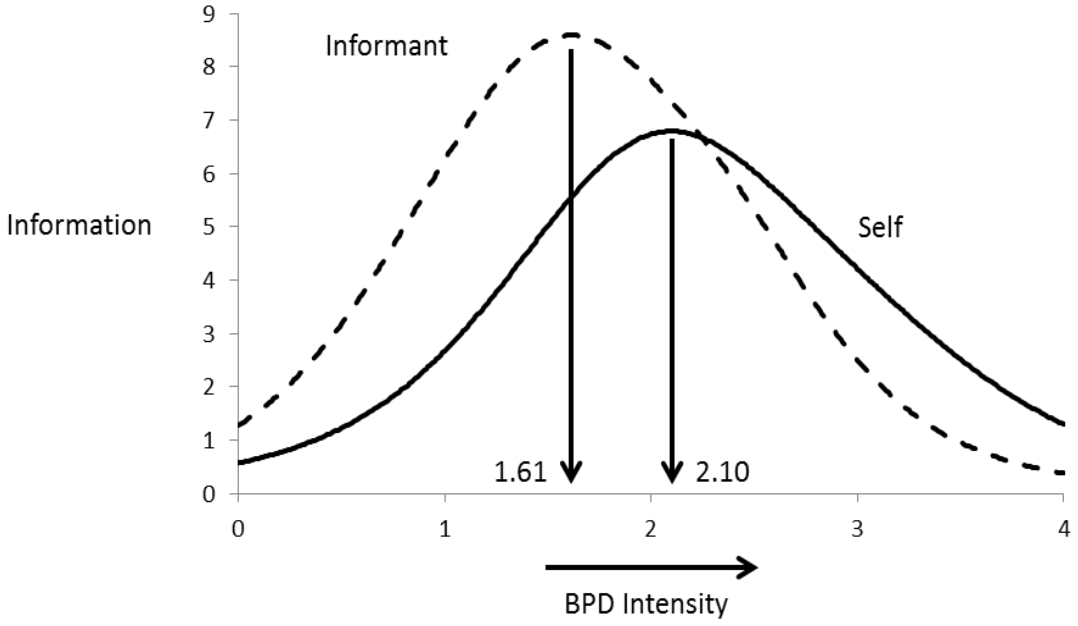
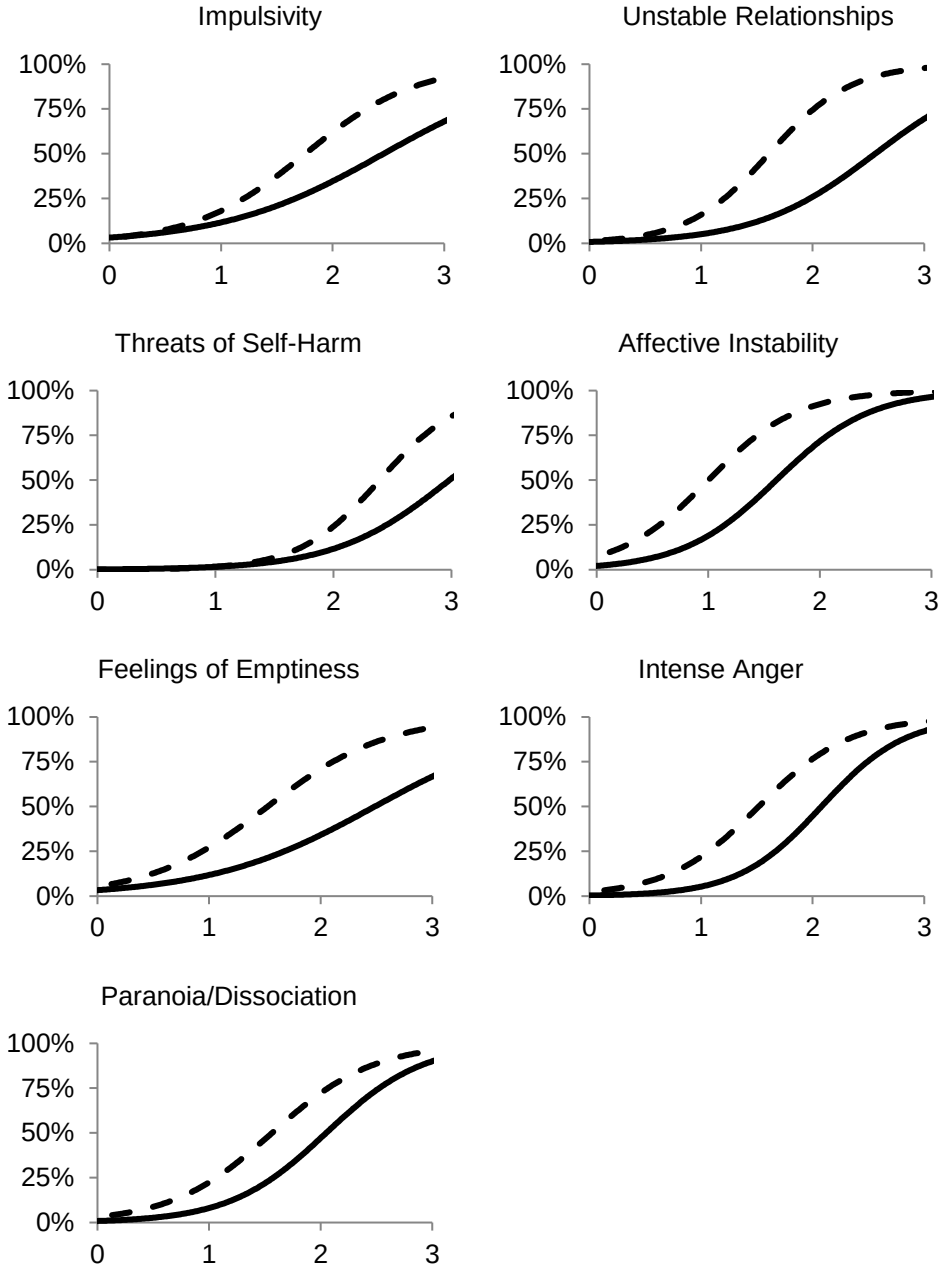
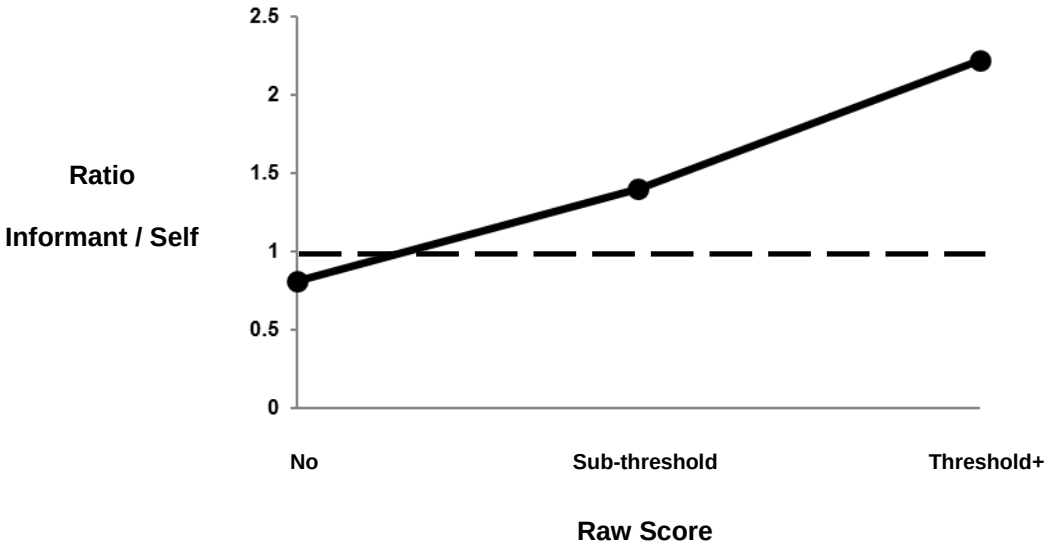


Figure 2. Item Characteristic Curves for Self- and Informant-Reported BPD Diagnostic Criteria.



In all graphs, the horizontal axis represents the latent borderline PD trait in *SD* units (range from low, 0, to high, 3) and the vertical axis represents the probability that an item would be endorsed, from 0% to 100%. Solid lines represent the self-reported ICCs; segmented lines represent the informant reported ICCs.

Figure 3. Ratios (Informant/Self) of Raw Score Endorsement Frequencies Across the Number of BPD Criteria Endorsed.



Note. Raw score = the number of BPD criteria endorsed grouped as follows: no = no BPD (no items endorsed), sub = subthreshold BPD (1-4 items endorsed), threshold+ = BPD diagnosis (5-9 items endorsed). The horizontal dashed line represents where the data points would lie if targets and informants were equally likely to endorse each raw score.