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Individuals with borderline personality disorder (BPD) experience significant distress in daily life. In order to receive a BPD diagnosis in the DSM-5-TR, individuals must exhibit a minimum of five out of nine diagnostic criteria. This allows for as many as 256 combinations of the nine diagnostic criteria to warrant a BPD diagnosis and subsequently leads to substantial variation in symptom manifestation and behavioral outcomes across affected individuals. The present study therefore sought to parse out the heterogeneity within BPD by clarifying clusters of BPD traits and examining how they predict distinct functional outcomes. Undergraduate students ($N = 504$) completed the Personality Assessment Inventory- Borderline Features Scale (PAI-BOR) and several self-report questionnaires to assess functioning across life domains (i.e., global life functioning, social functioning, romantic functioning [trust and attachment], and emotional functioning [emotional intelligence and emotion regulation]). Confirmatory factor analysis revealed a five-factor structure within the PAI-BOR, consisting of Impulsivity, Mood Instability, Chronic Emptiness, Separation Concerns, and Negative Relationships. Using these BPD factors, a person-centered approach identified three distinct clusters in the data and how they relate to functional life outcomes: (1) High Functioning (i.e., low scores on factors and best outcomes), (2) Moderate Functioning (i.e., average scores on factors and outcomes), and (3) Low Functioning (i.e., high scores on factors and poorest outcomes). This cluster and functional outcome differentiation based on BPD trait severity provides support for the predictive validity of the PAI-BOR. In addition, it has important implications for prognosis and informing treatment, such as anticipating the extent of life dysfunction and emphasizing the need to comprehensively intervene with all five traits.

CLUSTERS OF BORDERLINE PERSONALITY DISORDER TRAITS AND FUNCTIONAL

LIFE OUTCOMES

by

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CHAPTER I: INTRODUCTION

Borderline personality disorder (BPD) is one of the most prevalent personality disorders. By way of illustration, approximately 6% of the general population and 20% of inpatient psychiatric patients are diagnosed with BPD (American Psychiatric Association, 2022). Further, these statistics do not account for a plentitude of individuals who do not seek treatment or are misdiagnosed (Jordanova & Rossin, 2010). Ruggero and colleagues (2010), for instance, found that individuals with BPD have a substantially increased risk of being misdiagnosed with bipolar disorder; indeed, 40% of the patients with DSM-IV BPD diagnoses reported having previously been misdiagnosed with bipolar disorder. Taken altogether, better understanding the core characteristics and functional outcomes of individuals with BPD could improve diagnostic accuracy and subsequently refine treatment for a greater number of affected individuals.

Individuals must exhibit five out of nine diagnostic criteria to warrant a BPD diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders (5th ed., text rev.; DSM-5-TR; American Psychiatric Association, 2022; see Appendix A). This polythetic diagnosing allows for 256 combinations when including all nine diagnostic criteria and thus leads to substantial heterogeneity (e.g., quantity of symptoms, symptom presentation) across affected individuals (Hawkins et al., 2014). Reiterating the heterogeneous nature of BPD, it is suggested that there are internalizing and externalizing personality type subgroups of BPD in adolescents and that a dimensional model is generally more appropriate for BPD symptoms compared to a categorical model (Ramos et al., 2014; Trull et al., 1990). Furthermore, while evidence suggests that there are clusters within BPD, the literature cumulatively remains scarce and is yet to identify clusters among the extensive range of key BPD features. An important future direction is therefore to identify symptom clusters within BPD and further, discern how these different

symptom clusters relate to present functioning and impairments. This idea is not entirely novel; Hopwood and Zanarini (2010) found support for the Five-Factor Model personality traits having significant correlations to composite psychosocial functional outcomes in a clinical population with personality disorders (77% BPD; McCrae & John, 1992). Examining more closely how traits identified through a BPD-tailored measure fit within distinct clusters and predict various outcomes is likely to have important implications for assessment, prognosis, and intervention.

Personality Assessment Inventory- Borderline Scale (PAI-BOR)

The heterogeneous nature of BPD has long been recognized. Perry and Klerman (1978) compared four BPD descriptions that were each constructed from features exhibited by individuals with BPD (Grinker et al., 1968; Gunderson & Singer, 1975; Kernberg, 1967; Knight, 1953). Their analysis profoundly informed diagnostic criteria in clinical practice. They found that across descriptions, the investigators had used a total of 104 criteria during case conceptualization, and half of the criteria were only described in one out of four descriptions. This brought to light the lack of agreement in diagnostic criteria for BPD, due in part to the variety of features presented by individuals with BPD. This accentuated the need for additional research and an improved diagnostic instrument. Following these findings and several others, Morey (1991) developed the Personality Assessment Inventory (Psychological Assessment Resources, 1991, 2007). One of the subscales of this inventory is the PAI-BOR which stands for Personality Assessment Inventory – Borderline Features Subscale. The PAI-BOR scale consists of 24 items with responses from 0 (*false*) to 3 (*very true*; see Measure B1 for sample items as copyright prevents presentation of the entire PAI-BOR scale). The scale incorporates core BPD features and provides users with a total score indicating disorder severity. In constructing the PAI-BOR, a factor analysis on 1,246 clinical patients revealed four subscales (Affective

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Instability, Identity Problems, Negative Relationships, and Self-Harm) which further provides a means to reduce the great heterogeneity of BPD presentations (Morey, 1991). De Moor and colleagues (2009) examined the use of the PAI-BOR in a large community sample and found that the measurement is invariant across sex and age. Hence, the PAI-BOR may be a helpful tool for assessing BPD features in all adults. Several other analyses have also demonstrated that the PAI-BOR has good reliability and validity (i.e., construct, criterion, discriminant, convergent, concurrent) as a self-report measure, though the four-factor model may not be the best fit (Jacobo et al., 2007; Kurtz et al., 1993; Slavin-Mulford et al., 2012; Stein et al., 2007; Trull, 1995; Trull, 1997). By way of illustration, Sanislow et al. (2002) identified a three-factor model in treatment-seeking individuals that fits with DSM-IV BPD criteria (i.e., disturbed relatedness, behavioral dysregulation, affective dysregulation); this has yet to be replicated. The analysis of Becker et al. (2006) yielded four factors unique to inpatient BPD adolescents: Factor 1 ("suicidal threats or gestures" and "emptiness or boredom"); Factor 2 ("affective instability", "uncontrolled anger", and "identity disturbance"); Factor 3 ("unstable relationships" and "abandonment fears"); and Factor 4 ("impulsiveness" and "identity disturbance"). These findings have important implications for clinical settings as they may suggest which specific areas of impairment are likely in individuals with BPD and accordingly, important areas to target in treatment.

Among nonclinical participants, Jackson and Trull (2001) obtained data from 4,682 18-year-old first-year undergraduate students and found that a six-factor model provides the best fit to the data, with each factor's respective eigenvalue being greater than one: lack of control/impulsive behavior ($\lambda 1 = 5.95$), mood instability ($\lambda 2 = 2.14$), chronic emptiness/loneliness/boredom ($\lambda 3 = 1.48$), separation and abandonment concerns ($\lambda 4 = 1.32$), negative relationships ($\lambda 5 = 1.22$), and reckless spending ($\lambda 6 = 1.07$). It may therefore be

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advantageous to utilize the six-factor model in nonclinical research settings to encourage a model that best applies to the poulation at-hand and is a consistent standard model for subsequent research to use for building empirical support. Figure 1 demonstrates how each item on the PAI-BOR loads onto the original four factors identified by Morey (1991) and subsequently, how the items load onto Jackson and Trull's (2001) improved six-factor model. In addition, Figure 1 includes the correlations between the items and their corresponding factors as well as the correlations between the six factors, with each original model's respective data.

Figure 1. PAI-BOR Factor Structure

Standardized factor loadings for a confirmatory factor analysis of Morey's 4-factor PAI-BOR model.

Standardized factor loadings for a confirmatory factor analysis on the validation sample to replicate the 6-factor PAI-BOR model.
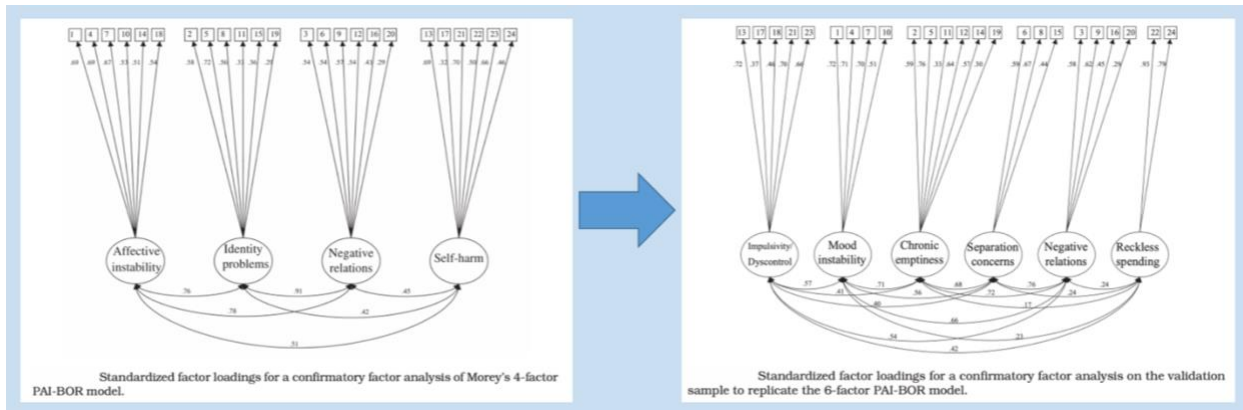
Gardner and Qualter (2009) compared Jackson and Trull's (2001) six-factor model to Morey's (1991) four-factor structure in a community and student population. Results were most consistent with Jackson and Trull's (2001) six-factor model, reiterating its utility. In alignment with the aforementioned findings and considering that the present study recruited from a nonclinical college population, the PAI-BOR was utilized with Jackson and Trull's (2001) existing six-factor analysis. Thus, we attempted to replicate the six-factor analysis with a typical college population. In addition, and most importantly, the relationship between the various factors and six selected measures of life functioning were assessed.

Functional Outcomes

Individuals with BPD may experience significant distress across multiple life domains. However, while all individuals with BPD experience detrimental effects on some aspects of their quality of life, it remains uncertain whether these impacts are uniformly distributed among individuals or subgroups of individuals with BPD. I created Figure 2 to summarize frequently impacted areas of life functioning, which are further detailed below.

Figure 2. Areas of Life Functioning in BPD
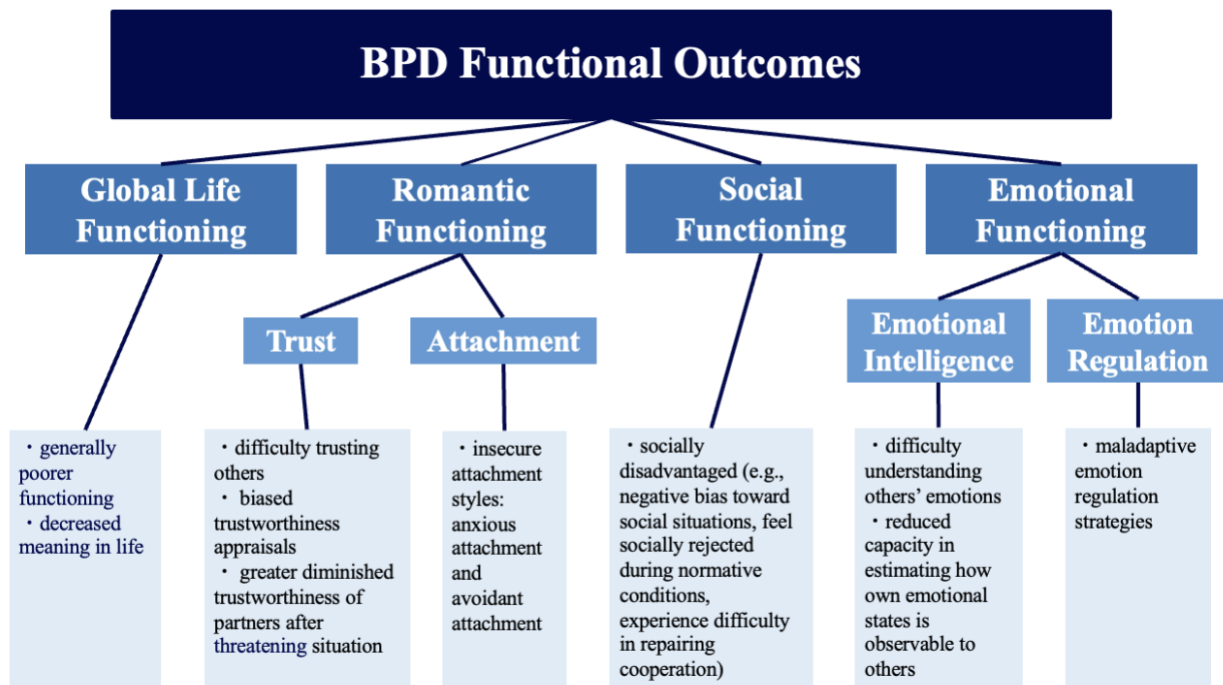
Global Life Functioning

Global life functioning assesses how well an individual functions in their daily life. Thompson et al. (2020) found that a greater quantity of BPD symptoms is the best predictor of poor functioning and Marco et al. (2017) noted that exhibiting any BPD symptom has a strong negative correlation with meaning in life, which is a significant predictor of global life functioning (Bernard et al., 2020). Nevertheless, it remains unclear whether specific BPD

symptoms, that is, specific factors, are more highly correlated to poor global life functioning compared to others. Furthermore, clarifying which BPD traits are associated with worse global life functioning could help predict BPD trajectories and inform effective treatment targets.

Social Functioning

Early BPD research focused on romantic dysfunction; however, in recent decades, the significant impairment displayed by individuals with BPD across all interpersonal relationships has become increasingly apparent (Hill et al., 2008). Individuals with BPD tend to be socially disadvantaged as they exhibit a negative bias toward social situations, feel socially rejected during normative conditions, experience difficulty in repairing cooperation after experiencing disappointment, and post more often on social media, as well as experience more regret after posting (Lis & Bohus, 2013; Ooi et al., 2020; Renneberg et al., 2012). Furthermore, the frequent social dysfunction among individuals with BPD has adverse cascading effects. Clarifying which factors, or groups of traits, correlate to poor social functioning would therefore inform vital treatment targets for preventing a negative social trajectory.

Romantic Functioning

Trust. BPD is associated with unstable and stormy romantic relationships (American Psychiatric Association, 2022; Bouchard et al., 2009; Lazarus et al., 2020). More specifically, individuals with BPD appraise their relationships as more negative, conflictual, and unsatisfactory than their partners, which frequently leads to partner misunderstanding and conflicts (Bouchard et al., 2009; Miano et al., 2020). Relatedly, individuals with BPD generally have difficulty trusting others, exhibit biased trustworthiness appraisals, and report greater diminished trustworthiness of their partners after a threatening situation compared to healthy controls (Botsford & Renneberg, 2020; Masland & Hooley, 2020; Miano et al., 2017). However,

research has yet to examine which specific factors lead to interpersonal trust in individuals with BPD. Elucidating groups of BPD symptoms as correlates to trust might serve as useful treatment targets for improving romantic relationships.

Attachment. Research repeatedly supports that individuals with BPD exhibit insecure attachment styles. According to Bowlby's theory of attachment, insecure attachment stems from adverse infant and childhood patterns of interactions with caregivers (Bowlby, 1977). This leads to learning that close relationships are unreliable, such that an individual feels uncertain about the availability and responsiveness of their romantic partners. Concerning individuals with BPD, anxious attachment and avoidant attachment are most common and contribute to disturbed romantic relationships (Bouchard et al., 2009; Smith & South, 2020). Although evidence supports that both of these patterns are frequent in BPD, it has not been established whether specific BPD traits are more strongly linked to insecure attachment as well as if different BPD trait clusters predict distinct attachment styles. Such findings would help focus treatment targets for individuals with BPD displaying insecure attachment and consequently promote positive romantic relationships.

Emotional Functioning

Emotional Intelligence. Finally, emotional instability is a key feature of BPD (Ebner-Priemer et al., 2007; Reisch et al., 2008; Vansteelandt et al., 2020). For instance, De Meulemeester and colleagues (2021) found individuals with BPD to have a reduced capacity in estimating the extent to which one's emotional states are observable to others. This may plausibly lead to under-sharing or over-sharing, thus further negatively affecting other life domains (e.g., interpersonal relationships). Accentuating the cascading effect of poor emotional functioning, a study on individuals with BPD revealed that affective instability is negatively correlated to

perceived quality of life; in other words, negative affect is positively correlated with poor quality of life (Harpøth et al., 2021). Individuals with BPD also frequently have difficulty understanding others' emotions. More specifically, they display deficits in their ability to understand what others are feeling despite being presented with facial expressions that are easily discernable by typical, healthy individuals (Peter et al., 2013). Clarifying which groups of BPD symptoms are correlated with poor emotional intelligence could reveal treatment targets and subsequently enhance emotional functioning (and possibly other life domains).

Emotion Regulation. Similarly, a deficit in emotion regulation is central to BPD. Emotion regulation involves changes in the form, frequency, experience, or expression of emotions (Gross, 2014). Thus, emotion dysregulation refers to the inability to regulate emotional responses to provocative stimuli in an effective, adaptive manner. This is often experienced by individuals with BPD in that they struggle with emotional awareness and clarity, the ability to accept emotional experiences and inhibit impulsive behavior, and the capacity to regulate emotions (Dixon-Gordon et al., 2021; Gratz & Roemer, 2004). As a result of experiencing such difficulties, individuals tend to engage in maladaptive emotion regulation strategies that provide temporary relief (e.g., avoidance, substance use). Over time through negative reinforcement, the adverse strategies are augmented as typical behavioral responses and become trait-like (Beauchaine, 2015; Chapman, 2019). In summary, it is clear that emotion dysregulation severely affects individuals with BPD daily functioning and frequently predicts negative trajectories. Clarifying the associations between emotion dysregulation and key BPD traits would provide clinical utility in identifying which individuals with BPD are at highest risk for exhibiting emotion dysregulation strategies and as a result, suggest earlier targeted intervention to promote adaptive emotional functioning.

Theoretical Framework

Linehan's biosocial model of BPD posits that an invalidating childhood environment (e.g., criticism, neglect, lack of emotional support) coupled with a biological vulnerability causes an individual to experience difficulty regulating their emotions (Linehan, 1993). According to this model, emotion dysregulation is further explained through emotion sensitivity, heightened and labile negative affect, a deficit of appropriate regulation strategies, and a surplus of maladaptive regulation strategies (Carpenter & Trull, 2013). Thus, individuals with BPD oftentimes experience unpredictable, uncontrollable, and rapid shifts in emotions that leads them to engage in poor coping behaviors, such as self-harm, substance use, and other impulsive behaviors.

Emotion dysregulation also oftentimes underlies interpersonal problems (Linehan, 1993). Herr and colleagues (2013) tested this theory and found support for emotion regulation mediating the relationship between BPD symptoms and interpersonal functioning. However, they also found that interpersonal functioning partially mediated the relationship between BPD symptoms and emotion regulation. Other literature has accentuated the important role that emotions play within social interactions and revealed that individuals with BPD symptoms tend to have less emotion regulation in social contexts (Dixon et al., 2021). Taken altogether, it is clear that difficulties in emotion regulation and interpersonal functioning interact in individuals with BPD, but the exact causal relationship among these characteristics remains inconclusive.

Sullivan's (1953) interpersonal theory suggests that interpersonal relationships and social experiences have a substantial role in an individual's personality and functioning. More specifically, Sullivan posits that all interpersonal relations, including both social and romantic, influence an individual's well-being. In alignment with this theory proposing a strong association

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between social and romantic functioning, a meta-analysis on 127 studies found that individuals with BPD frequently have impaired functioning in the parent-child, family, peer, and romantic domains (Wilson et al., 2017). Thus, social and romantic dysfunction are commonly comorbid in individuals with BPD and are likely related to one another; however, the nature of the relationship is unclear.

The Present Study

BPD is a severe mental illness that causes significant distress. However, while most affected individuals experience adverse outcomes, the symptoms and functional impairment presented vary from case to case. Furthermore, BPD's heterogeneity is overtly iterated in the DSM-5-TR, which is the current standard diagnostic manual utilized by mental health professions in the United States (American Psychiatric Association, 2022). The DSM-5-TR requires that individuals meet a threshold of five out of nine diagnostic criteria to receive a diagnosis, allowing for 256 combinations of the nine criteria to warrant a BPD diagnosis (Hawkins et al., 2014). Further, given that the manual is rooted in a categorical all-or-nothing approach, all individuals who meet this threshold will be provided with the same diagnosis despite plausibly displaying varying symptoms and symptom severities.

One measure that is frequently used to assess BPD traits is the PAI-BOR; by way of illustration, the measure has greater than 4,300 citations according to Google Scholar as of October 2023. The PAI-BOR is a continuous measure and is therefore arguably advantageous in that it captures individuals who are high in BPD traits but who may fall short of the 5-criteria diagnostic cutoff. Furthermore, research suggests that all individuals who exhibit high levels of BPD traits suffer greatly, emphasizing the importance of assessing traits in a continuous nature to identify those at increased risk of poor outcomes (Trull et al., 1997). In pursuit of better

understanding the substantial heterogeneity of BPD diagnoses, many factor analyses have been conducted. More specifically, factor analyses on the PAI-BOR were carried out to examine intercorrelations among the 24 questions and thus, condense the assessment results into core domains. The domains resulting from factor analysis support cognitive parsimony, reduce cognitive load, and provide an opportunity to extend research on BPD in a more manageable way for researchers and clinicians, compared to referencing the full extent of the PAI-BOR's 24-items or the DSM-5-TR's nine diagnostic criteria (American Psychiatric Association, 2022). Jackson and Trull (2001) performed exploratory and confirmatory factor analyses on the PAI-BOR from a typical college population. They identified the following six factors that reflect distinct characteristics frequently exhibited in BPD: Impulsivity, Mood Instability, Chronic Emptiness, Separation Concerns, Negative Relationships, and Reckless Spending (Jackson & Trull, 2001).

Goals and Hypotheses

Past research has investigated and confirmed differences in symptom manifestation among individuals with BPD. Nevertheless, it remains unclear how BPD traits may cluster together to provide distinct profiles and how these differences in traits relate to functional outcomes. Despite the PAI-BOR being the most frequently used measure to assess BPD traits, research has yet to examine how its factors, which differ from the DSM-5-TR diagnostic criteria, relate to functioning in real life. The first goal of the present study was therefore to conduct a confirmatory factor analysis on the PAI-BOR to identify a latent factor structure of BPD traits in the general population. The second goal of this study was to determine how these BPD factors cluster into unique profiles, essentially representing BPD subgroups. The final goal of this study was to examine how BPD profiles differentially relate to functional life outcomes. The present

study's findings have opportunity to extend the literature by revealing the PAI-BOR's relevance in the real-world, further categorizing heterogeneous BPD profiles, improving our ability to differentiate prognoses, and tailoring treatments to the deficits or problems indicated by factor scores. In other words, findings would suggest how individuals' scores on the PAI-BOR factors cluster into distinct profiles and predict life outcomes, regardless of diagnostic status, and consequently identify treatment targets to foster improved outcomes.

Based on the study goals, this study had three primary hypotheses. Of note, this study was exploratory in nature and as such, its hypotheses were theory-driven:

1. *Hypothesis 1*: The present study would confirm Jackson and Trull's (2001) six-factor structure of the PAI-BOR with an acceptable model fit. Specifically, I expected to identify the following six latent factors of the PAI-BOR relating to BPD traits: (1) *Impulsivity*, (2) M*ood Instability*, (3) C*hronic Emptiness*, (4) S*eparation Concerns*, (5) N*egative Relationships*, and (6) *Reckless Spending.*

    - This hypothesis was based on the premise of the present study seeking to similarly match the age and gender sample in Jackson and Trull's (2001) six-factor analysis of the PAI-BOR.

2. *Hypothesis 2*: The latent profile analysis (LPA) would reveal at least 3 distinct classes with different symptom profiles: one Low Pathology profile that would be characterized by scoring low across all BPD factors; one Emotionally Unstable profile that would be characterized by scoring high on the *Impulsivity*, *Mood Instability*, *Chronic Emptiness*, and *Reckless Spending* factors; and one Relationship Problems profile that

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would be characterized by scoring high on the *Separation Concerns* and *Negative Relationships* factors.

- Across psychopathology, individuals vary in symptom severity. Specifically relating to BPD, individuals have exhibited a wide range of symptom severity, such that they might exhibit very low levels of BPD symptoms and impairment (i.e., high functioning; Kleindienst et al., 2020). Considering that the study's sample was a typical nonclinical population, it was expected that the Low Pathology profile that emerges would endorse low levels, if any, of BPD traits.

- Linehan's biosocial model puts forth that individuals with BPD experience emotion dysregulation, which consists of a heightened response to emotional stimuli or experiences, intense and variable negative emotions, and maladaptive emotion regulation strategies, such as engaging in impulsive behaviors (Linehan, 1993). It is therefore likely that individuals would experience problems across areas of emotion dysregulation similarly (e.g., mood instability, chronic emptiness, impulsivity, and reckless spending), which would comprise the Emotionally Unstable profile.

- Sullivan's interpersonal theory and subsequent research suggests that social and romantic functioning are highly intertwined (Sullivan, 1953). Specifically, individuals with

BPD parent-child, family, peer, and romantic relationships tend to be consistently impaired (Wilson et al., 2017). Thus, individuals' endorsement of negative relationships across interpersonal relationships would plausibly agree with their concerns of separation and abandonment within romantic relationships, making up the Relationship Problems profile.

3. *Hypothesis 3*: Each of the three profiles would uniquely predict individual's functional life outcomes (i.e., global life functioning, social functioning, romantic functioning [trust and attachment], emotional functioning [emotional intelligence and emotion regulation]). Specifically, the Low Pathology profile would be predictive of scoring the best on each functional life outcome; the Emotionally Unstable profile would be predictive of scoring poorly on the global life and emotional functioning (i.e., emotional intelligence and emotion regulation abilities) outcomes; and the Relationship Problems profile would be predictive of scoring poorly on the social and romantic functioning (i.e., trust and attachment) outcomes.

- Given that the Low Pathology profile was expected to endorse a low quantity of BPD traits, it was likely that they would function well across all areas of life.
- The Emotionally Unstable profile was expected to score poorly on the *Impulsivity*, *Mood Instability*, *Chronic Emptiness*, and *Reckless Spending* factors.

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- Relating to the *Impulsivity* factor, research indicates that individuals who engage in the greatest number of impulsive behaviors tend to have poor emotional clarity, encompassed by emotional intelligence and emotion regulation (Miller & Racine, 2020). Further, research on psychopathology reiterates the positive relationship between impulsive behaviors (e.g., binge-eating, non-suicidal self-injury, alcohol use) and emotion dysregulation (Berking et al., 2011; Brockmeyer et al., 2014; Brown et al., 2002). Thus, impulsivity would likely be predictive of poor emotional intelligence and emotion regulation.
- Relating to the *Mood Instability* factor, Linehan's biosocial theory (1993) states that emotion dysregulation is characterized by heightened emotional sensitivity, an inability to regulate intense emotional responses, and a slow return to emotional baseline. Individuals who exhibit emotional instability (i.e., mood instability) would therefore be more likely to experience emotion dysregulation.
- Relating to the *Chronic Emptiness* factor, research investigating loneliness and quality of life in elderly as well as psychiatric populations has supported that

loneliness predicts low quality of life, and thus loneliness

plausibly has similar effects across all ages, including

young adults (Borge et al., 1999; Ekwall et al., 2005). In

other words, experiencing chronic emptiness would likely

predict poor global life functioning.

- o Relating to the *Reckless Spending* factor, reckless

  spending is conceptually encompassed by impulsivity and

  therefore likely related to emotional intelligence and

  emotion regulation (American Psychiatric Association,

  2022; Kopetz et al., 2018). Specifically focusing on

  reckless behaviors, literature suggests that pathological

  gamblers report a greater lack of emotional clarity, which

  is again characteristic of emotional intelligence and

  emotion regulation (Williams et al., 2012). Thus,

  engaging in reckless spending would plausibly be related

  to poor emotional intelligence and emotion regulation.

- The Relationship Problems profile was expected to score poorly on

  the *Separation Concerns* and *Negative Relationships* factors.

  - o Relating to the *Separation Concerns* factor, attachment

    theory suggests that experiencing adverse relationships

    and transactions beginning in infancy affects one's

    capacity to develop stable relationships into adulthood

    (Bowlby, 1969; Bowlby, 1977; Levy, 2005). More

specifically, a stable relationship is defined as having a

secure attachment style and regarding others as

dependable and trustworthy, which is contradictory to

having separation and abandonment concerns. Thus,

endorsing separation concerns would likely predict poor

romantic attachment and trust.

- o Relating to the *Negative Relationships* factor, the items

  that load onto the factor reflect relationship instability,

  relationship longevity, making mistakes in choosing

  interpersonal relationships, and being let down by past

  relationships (Jackson & Trull, 2001). Bowlby's (1969)

  attachment theory posits that developing insecure

  attachment styles leads to unstable interpersonal

  relationships throughout adulthood, concerning familial,

  social, and romantic relationships. Additionally, literature

  repeatedly reveals that poorer trust and satisfaction (i.e.,

  perception) in relationships is associated with adverse

  relationship outcomes (Campbell et al., 2010).

  Experiencing negative relationships would therefore

  plausibly relate to having poor social and romantic

  functioning, concerning both attachment and trust.

- Alternatively, another potential result considered was that both the

  Emotionally Unstable and Relationship Problems profiles could

lead to impairment across all areas of life. Research on Linehan's biosocial model of BPD suggests that emotion dysregulation impedes interpersonal functioning and vice versa, which implies that an individual's emotional, social, and romantic functioning may be similarly impacted (Dixon et al., 2021; Herr et al., 2013; Linehan, 1993; Sullivan, 1953; Wilson et al., 2017). Moreover, individuals experiencing poor functioning across emotional, social, and romantic life domains would likely exhibit poor global functioning, evidenced by daily impairment across various life domains.

CHAPTER II: METHOD

Participants

Participants were undergraduates recruited from introductory psychology courses at Guilford Technical Community College (GTCC) and the University of North Carolina at Greensboro (UNCG) SONA Experiment Scheduling System during the Spring and Fall 2022 semesters. Individuals were required to be 18 to 22 years old to be eligible for participation to closely resemble the sample obtained in the 6-factor PAI-BOR model by Jackson and Trull (2001). Likewise, the study aimed to acquire a sample consisting of approximately 63% females (37% males) with the intent to replicate the typical sample and gender ratio yielded in the 6-factor analysis (Jackson & Trull, 2001). Notably, a 2-year follow up study of nonclinical young adults who exhibited a significant number of BPD features yielded that these individuals experience poor functional outcomes similar to individuals diagnosed with BPD, indicating that the present study's nonclinical sample will be relevant to BPD literature (Trull et al., 1997). The study required that individuals identify as female or male (rather than nonbinary) to participate and they had to have been or were currently in a romantic relationship due to the romantic functioning outcome measures. There were no other exclusion criteria that prevented individuals from signing up to participate. All participants received compensation in the form of credit provided towards an academic course.

I conducted a priori power analysis in the G*Power analytic program to determine the minimum required sample size for a latent profile analysis (Faul et al., 2009). Based on past literature on individual differences concerning personality, the effect size was determined to be $F^2 = .15$ (Bohus et al., 2004; de Bruijn et al., 2005; Kwapil et al., 2022). In addition, I set Cronbach alpha to $\alpha = .05$, power to $1 - \beta = .8$, numerator df = 2 (i.e., predicting 3 profiles minus

one), and number of groups = 4 (i.e., predicting 3 profiles plus one), which resulted in a

suggested sample size of $n = 432$. In anticipation of excluding several participants' data from the

study's analyses due to failing to respond to all questions and inattention, I increased my target

sample size to 480 (i.e., 10% sample increase as suggested by Maniaci and Rogge, 2014). An

initial sample of 753 participants were recruited for the present study. Participants were dropped

due to changes in study procedure ($n = 15$), providing incomplete data ($n = 139$), falling outside

of the study age range ($n = 38$), and having elevated scores on a measure of invalid responding ($n = 57$; see Attentive Responding Scale [ARS] in Materials). The final sample consisted of 504

participants. Sample demographics are provided in Figure 3, Figure 4, and Figure 5.

Figure 3. Participant Ages
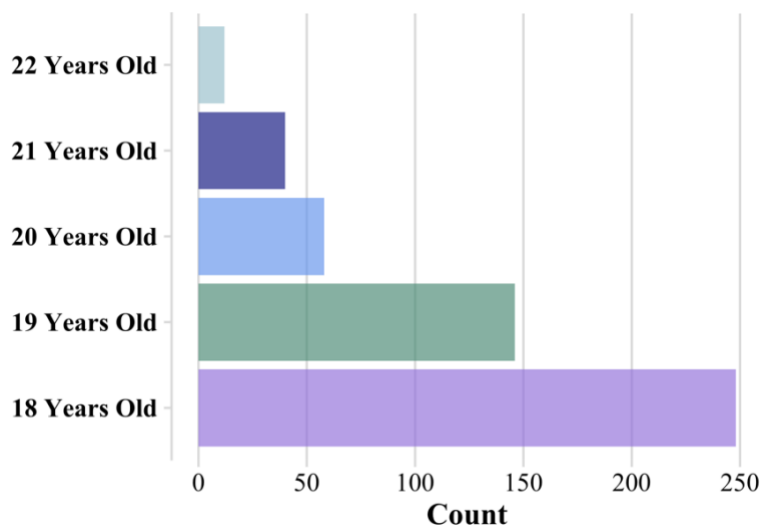
Note. Participants' ages ranged from 18 to 22 years of age ($M = 18.85$, $SD = 1.06$).

Figure 4. Participant Racial Identities
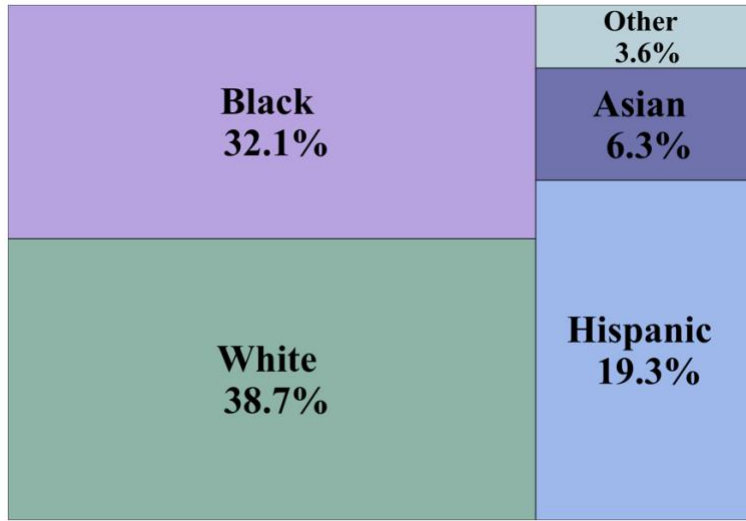
Note. The majority of participants identified as White (*n* = 195; 38.7%) and Black (*n* = 162; 32.1%), followed by Hispanic (*n* = 97; 19.3%), Asian (*n* = 32; 6.3%), and Other (*n* = 18; 3.6%).

Figure 5. Participant Gender Identities and Institutions
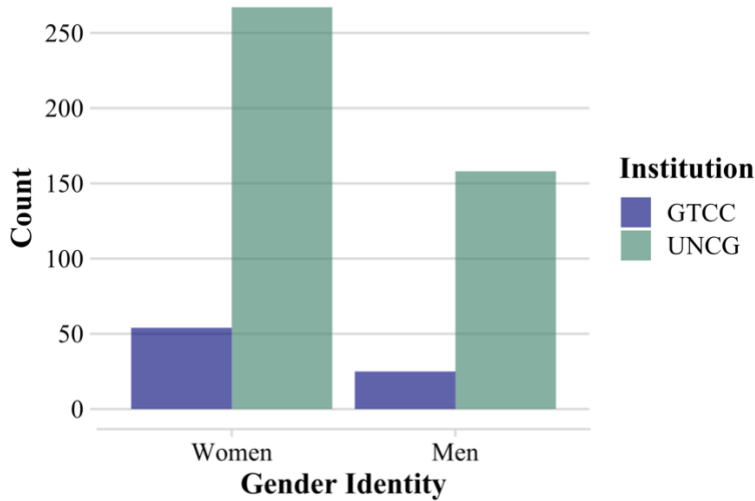
Note. 321 participants identified as women (GTCC *n* = 54, UNCG *n* = 267; 63.7% total) and 183 participants identified as men (GTCC *n* = 25, UNCG *n* = 158; 36.3% total).

Apparatus and Materials

Computer

The online format of the survey required that all participants have access to a computer with internet.

Personality Assessment Inventory- Borderline Features Scale (PAI-BOR)

The PAI-BOR was the first questionnaire presented to participants and provided individual scores for the latent BPD factors that were used in data analyses. The PAI-BOR consists of 24 self-report items that are rated on a 4-point Likert scale: 0 *(false)*, 1 *(slightly true)*, 2 *(mainly true)*, and 3 *(very true*; Morey, 1991; see Measure B1). As evidenced by Jackson and Trull (2001), the PAI-BOR reflects six key factors (i.e., Impulsivity, Mood Instability, Chronic Emptiness, Separation Concerns, Negative Relationships, Reckless Spending). An example item from the PAI-BOR includes, "I worry a lot about other people leaving me." Total scores can range from 0 to 72, with higher scores indicating higher overall level of BPD traits; a raw score of 38 or higher indicates the presence of significant BPD features, though this study interpreted scores dimensionally. Multiple studies provided evidence for the reliability (i.e., test-retest) and validity (i.e., construct, convergent, discriminant, concurrent) of the PAI-BOR across both nonclinical and clinical samples (Jacobo et al., 2007; Kurtz et al., 1993; Slavin-Mulford et al., 2012; Stein et al., 2007; Trull, 1995, 1997). The present study's sample demonstrated good internal consistency on the PAI-BOR ($\alpha = .89$), which is typical relative to previous literature (Howard & Cheavens, 2023; Morey, 2014; Webb & McMurran, 2008).

Multicultural Quality of Life Index (MQLI)

The MQLI was presented to participants in random order with other questionnaires and used to assess participants' overall global life functioning. The MQLI is a 10-item self-report

questionnaire that covers aspects of 10 life domains: physical and emotional well-being, psychological and emotional well-being, self-care and independent functioning, occupational functioning, interpersonal functioning, social-emotional support, community and services support, personal fulfillment, spiritual fulfillment, and global perception of quality of life (Mezzich et al., 2011; see Measure B2). Each item is rated on a 10-point Likert scale from 1 *(Poor)* to 10 *(Excellent)*. An example item from the MQLI is, "Global Perception of Quality of Life (feeling satisfied and happy with your life in general)." Total scores can range from 10 to 100, with higher scores indicating higher quality of life. There is evidence for this instrument's test-retest reliability ($r = .87$), internal consistency ($\alpha = .92$), and discriminant validity (Mezzich et al., 2011); results were observed by correlating responses on two separate tests in the same sample, examining variance in a factor analysis, and distinguishing between psychiatric patients and professionals who are expected to have different qualities of life. The present study's sample demonstrated good internal consistency on the MQLI ($\alpha = .90$).

Social Functioning Questionnaire (SFQ)

The SFQ was administered to participants in random order with other questionnaires and used in analyses to examine BPD factor correlations to individuals' social functioning. The SFQ is an 8-item self-report scale that was developed from the semi-structured interview Social Functioning Schedule (SFS; Tyrer et al., 2005; see Measure B3). This scale examines participants' overall social functioning, including questions concerning: Work and Home Tasks, Financial Concerns, Relationships with Family, Sexual Activities, Social Contacts, and Spare Time Activities. Each item is rated on a 4-point Likert scale from 0 to 3, which qualitatively varies across items. An example item from the SFQ includes, "I feel lonely and isolated from other people." Total scores can range from 0 to 24, with higher scores indicating greater social

impairment. Analyses on the SFS and SFQ reveal good construct validity evidenced by correlations between the two measures as well as with levels of personality disturbance (Remington & Tyrer, 1979; Tyrer et al., 2005). The present study's sample demonstrated adequate internal consistency on the SFQ ($\alpha = .69$).

Trust in Close Relationships Scale

The Trust in Close Relationships Scale was presented to participants in random order along with other questionnaires, and their total scores were used to examine the relationship of romantic trust to BPD traits. The Trust in Close Relationships Scale assesses individuals' romantic functioning, focusing on gauging levels of trust in one's relationship partner (Rempel et al., 1985; see Measure B4). It consists of 17 items that reflect predictability, dependability, and faith. Items are rated on a 7-point Likert scale from 1 *(strongly disagree)* to 7 *(strongly agree)*. An example item from the measure is, "Though times may change and the future is uncertain, I know my partner will always be ready and willing to offer me strength and support." Total scores can range from 17 to 119, with higher scores indicating greater trust. In a heterogenous sample of established couples, the overall Cronbach alpha for the scale was $\alpha = .81$, showing good reliability (Rempel et al., 1985). In addition, good construct and discriminant validity was observed relative to related measures (Rempel et al., 1985). The present study's sample demonstrated good internal consistency on the Trust in Close Relationships measure ($\alpha = .92$).

Experiences in Close Relationships-Revised Scale (ECR-R)

The ECR-R was presented to participants in random order along with other questionnaires. It is a scale that measures adult romantic attachment (Fraley et al., 2000; see Measure B5). It totals to 36 Likert scale questions concerning two subscales of insecure attachment: avoidance and anxiety; Questions 1-18 assess anxious attachment (e.g., "I worry that

romantic partners won't care about me as much as I care about them") and Questions 19-36 tap into avoidant attachment (e.g., "It's not difficult for me to get close to my partner"). Each item is rated on a 7-point Likert scale from 1 *(strongly disagree)* to 7 *(strongly agree)*. Total scores can range from 36 to 252, with higher scores indicating greater insecure attachment. The ECR-R has adequate test-retest reliability, internal consistency, and validity (i.e., nomological, convergent; Busonera et al., 2014; Fraley et al., 2000); reliability was established using participants who completed the questionnaire on two occasions (i.e., 100 days apart) and validity was established by correlating results to several measures with related constructs. The present study's sample demonstrated good internal consistency on the ECR-R ($\alpha = .94$).

Schutte Self-Report Emotional Intelligence Test (SSEIT)

The SSEIT was randomly presented to participants within the life functioning questionnaire portion of the Qualtrics survey. Participants' total scores on the SSEIT reflects their emotional functioning; specifically, the SSEIT assesses emotional intelligence by means of employing questions relating to four sub-scales: Emotion Perception, Managing Self-Relevant Emotions, Utilizing Emotions, Managing Others' Emotions (Schutte et al., 1998; see Measure B6). The SSEIT totals to 33-items and utilizes a 5-point Likert scale from 1 *(strongly disagree)* to 5 *(strongly agree)*. An example item includes, "I find it hard to understand the non-verbal messages of other people." Total scores can range from 33 to 165, with higher scores indicating greater emotional intelligence. The scale is found to have good reliability (i.e., $\alpha = .84$; $\alpha = .89$; $\alpha = .90$) and validity across various studies when assessing correlations between items and established measures on emotional intelligence and related constructs (Austin et al., 2004; Saklofske et al., 2003; Schutte et al., 1998). The present study's sample demonstrated good internal consistency on the SSEIT ($\alpha = .89$).

Difficulties in Emotion Regulation Scale (DERS)

The DERS was presented to participants in random order along with other questionnaires. The DERS is a 36-item scale adapted from the Generalized Expectancies for Negative Mood Regulation Scale (NMR), Emotional Approach Coping Scale, and the Trait Meta-Mood Scale (Catanzaro & Mearns, 1990; Gratz & Roemer, 2004; Salovey et al., 1995; Stanton et al., 2000; see Measure B7). This tool reveals how individuals tend to their emotions by incorporating questions relating to 6 subscales: nonacceptance of emotional responses, difficulty engaging in goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. Each item is rated on a 5-point Likert scale from 1 *(0-10%; almost never)* to 5 *(91-100%; almost always)*. An example item from the DERS is, "I have no idea how I am feeling." Total scores can range from 36 to 180, with higher scores indicating greater emotion regulation problems. Analyses support that the DERS has high internal consistency (α = .93), good test-retest reliability, and adequate construct and predictive validity in undergraduates as well as treatment-seeking adults with emotional disorders (Gratz & Roemer, 2004; Hallion et al., 2018); these findings were evidenced through correlations between items, with other measures on emotion dysregulation, and with clinical behavioral outcomes that are associated with emotion dysregulation. The present study's sample demonstrated strong internal consistency on the DERS (α = .95).

Attentive Responding Scale (ARS)

The ARS is a 33-item questionnaire that assesses inattention by means of utilizing measures of infrequency and inconsistency (Maniaci & Rogge, 2014; see Measure B8). The first half of the ARS (i.e., 17 items; "I am an active person") were presented to each participant prior to the PAI-BOR and life functioning scales. The remaining second half of the ARS (i.e., 16

items; "I have an active lifestyle") were randomly presented to participants dispersed between the life functioning scales. Items were rated on a 5-point Likert scale from *not at all true* to *very true*. Participant scores on the ARS were analyzed to assess if any responses were problematic and accordingly, if their data should be excluded from study results; Maniaci and Rogge (2014) identified cut-scores of 11.5 for the infrequency measure and 10.5 for the inconsistency measure. 57 participants were dropped from study analyses due to inattentive responding. The ARS was demonstrated to have good criterion and convergent validity by comparing participant responses with various other methods of assessing attention (Maniaci & Rogge, 2014).

Study Procedures

Taking into consideration the uncertainty of the then-current COVID pandemic, the present study was conducted virtually through Qualtrics. This online format allowed participants to complete the questionnaires remotely and in one sitting, thus plausibly expanding accessibility and attracting more individuals to sign up compared to requiring in-person completion. Participant responses were collected anonymously in pursuit of preventing social desirability bias in the data.

The survey began with an Informed Consent Form, followed by demographic questions to confirm eligible participation. Participants then completed the PAI-BOR and other self-report questionnaires to assess functioning across several life domains. Each questionnaire had clear instructions provided prior to each question and utilized a Likert scale. Participants first completed the PAI-BOR and then the remaining life functioning questionnaires were randomly presented to participants in aim to prevent response biases (e.g., respondent fatigue; priming; Jensen-Doss et al., 2013). In addition, 36 questions were distributed throughout the survey to assess for inconsistent and infrequent responses which informed whether participants' data

should be excluded from analyses (Maniaci & Rogge, 2014). The survey cumulatively totaled to 223 questions and took participants approximately 65 minutes to complete on average.

Data Analytic Plan

Data Cleaning

Data cleaning and analyses were completed in R Studio (2020) and Mplus version 8.10 (Muthén & Muthén, 1998-2023). Participants' data that was collected prior to a study modification, was incomplete, or fell outside the age range were excluded from analyses. In addition, due to participant inattentiveness threatening power and effect size, participants who had invalid responding (i.e., inattention assessed through inconsistent and infrequent responses) were excluded from analyses (Maniaci & Rogge, 2014). All variables were assessed for missing data. Missing data were estimated using full information maximum likelihood estimation (FIML) which tends to have fewer biases compared to other approaches for handling missing data (Enders & Bandalos, 2001). Finally, distribution normality of variables was assessed using skewness and kurtosis; values falling between ± 2 suggest a normal, univariate distribution (George & Mallery, 2010).

Confirmatory Factor Analysis

The first statistical analysis of this study involved carrying out a confirmatory factor analysis (CFA) to verify a latent variable of BPD traits using the items on the PAI-BOR (Morey, 1991). Specifically, a CFA was conducted in Mplus version 8.10 to determine if adequate model fit exists using Jackson and Trull's (2001) six-factor structure of the PAI-BOR with the present study's unique population (Muthén & Muthén, 1998-2023). The model used a weighted least squares mean and variance-adjusted (WLSMV) estimation, which is the standard technique used for categorical indicators (e.g., Likert scales; Brauer et al., 2023). Various model fit statistics and

theoretical considerations were taken into account when determining the best model. Namely, a good model fit was identified through a root mean square error of approximation (RMSEA) value less than .08, a comparative fit index (CFI) value greater than .90, a Tucker-Lewis index (TLI) value greater than .90, and a standardized root square mean residual (SRMR) value less than .08 (Hu & Bentler, 1999). When residual variance or cross-loadings were high, I examined the specific items and determined whether they should include WITH statements due to correlated error terms or should be dropped from the final model due to not aligning conceptually with the remainder of the items. The CFA model was then compared to exploratory factor analysis (EFA) models to ensure the best model fit was being used in subsequent analyses. In the final model, a correlation matrix was conducted to evaluate correlations among the factors.

Latent Profile Analysis

The second statistical analysis was to statistically group individuals' factor scores (i.e., observed indicator variables) from the CFA into BPD profiles using a latent profile analysis (LPA). LPA profiles are characterized by unique patterns of responses to the observed indicator variables, which are relatively homogenous within each profile but heterogeneous across profiles. In this study, the profiles hence represent important clusters of BPD traits. To evaluate goodness-of-fit, I compared the following statistics across various alternative models: Akaike information criterion (AIC; lower values indicated better balance between model fit and complexity), Bayesian information criterion (BIC; lower values indicated more parsimonious model), samples-size adjusted BIC (aBIC; lower values indicated more parsimonious model adjusted for sample size), entropy (values closer to 1 indicated more distinct and well-separated profiles), adjusted Lo-Mendell-Rubin likelihood ratio test (aLMR LRT; a significant p-value of .05 or less indicated that the model with k classes better fit the data than a model with k-1

classes), and size of the subgroups (examined whether any of the identified profiles were overly small or too large). The optimal number of profiles within the sample was chosen based on the best combination of the previously described statistics and interpretability.

Distal Outcomes

The third statistical analysis of this study aimed to investigate how each distinct profile derived from the selected solution predicts specific functional life outcomes. This was accomplished through using the three-step LPA approach (Asparouhov & Muthén, 2014). Specifically, after identifying the latent profiles and assigning each participant to one of the profiles based on their highest posterior probability of profile membership, I examined how profile membership was associated with each of the six functional life outcomes measures (i.e., distal outcomes) using estimated regression auxiliary models. Following an empirical check ensuring the demographic homogeneity of the study sample (i.e., age, gender, race), it was determined that the inclusion of covariates in the model was unnecessary. The results revealed how each profile was related to global life, social, romantic (i.e., trust and attachment), and emotional functioning (i.e., emotional intelligence and emotion regulation).

CHAPTER III: RESULTS

Preliminary Analyses

Descriptive statistics (i.e., minimum, maximum, mean, standard deviation, skewness, and kurtosis) were computed for all study variables to check for missingness with the data and distribution normality across variables; they are presented in Table 1. There was little missing data with only two participant responses missing overall and all variables were indicative of a normal, univariate distribution. Table 2 presents zero-order correlations for demographics, PAI-BOR, and functional life outcome variables; the correlations suggest that they are all relatively independent of each other except for the PAI-BOR, which had a few significant high correlations with functional life outcomes.

Table 1. Descriptive Statistics for Study Variables

Variable	Min	Max	Mean	SD	Skewness	Kurtosis
PAI-BOR	5	67	32.55	12.69	.18	-.46
Global Life Functioning (MQLI)	10	100	69.48	17.01	-.43	-.04
Social Functioning (SFQ)	3	20	9.66	2.94	.23	-.04
Trust in Close Relationships (TRUST)	21	119	77.79	13.98	-.40	.76
Attachment (ECR-R)	36	228	118.88	39.02	-.07	-.61
Emotional Intelligence (SSEIT)	58	164	120.65	15.20	-.30	.92
Emotion Regulation (DERS)	38	176	91.77	26.54	.25	-.48

Table 2. Zero-Order Correlations Among Demographics, PAI-BOR, and Functional Life Outcome Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Age	-													
2. Race- Asian	.05	-												
3. Race- Black	-.07	-.18**	-											
4. Race- Hispanic	-.02	-.13**	-.34**	-										
5. Race- White	.07	-.21**	-.55**	-.39**	-									
6. Race- Other	-.02	-.05	-.13**	-.09*	-.15**	-								
7. Gender (1 = Female)	.00	-.09*	.02	.03	-.04	.08	-							
8. PAI-BOR	.06	-.01	-.01	-.05	.05	.02	.29**	-						
9. Global Life Functioning (MQLI)	-.07	.03	.07	-.06	-.02	-.04	-.08	-.51**	-					
10. Social Functioning (SFQ)	.01	.00	-.04	.03	.01	.02	.13**	.60**	-.63**	-				
11. Trust in Close Relationships (TRUST)	.01	.03	-.12**	.00	.10*	.00	.06	-.08	.31**	-.20**	-			
12. Attachment (ECR-R)	-.03	-.01	.09*	-.01	-.07	.01	.05	.46**	-.45**	.48**	-.50**	-		
13. Emotional Intelligence (SSEIT)	.06	.03	.13**	-.01	-.12**	-.03	.04	-.28**	.57**	-.44**	.27**	-.38**	-	
14. Emotion Regulation (DERS)	.00	.02	-.11*	-.01	.11*	-.04	.17**	.71**	-.57**	.61**	-.12**	.45**	-.46**	-

Note. *$p < .05$. **$p < .01$.

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was conducted using WLSMV estimation for

categorical indicators in Mplus version 8.10 to verify a latent variable representing BPD traits

using items from the PAI-BOR (Muthén & Muthén, 1998-2023). Following the framework

proposed by Jackson and Trull (2001), Hypothesis 1 predicted a six-factor structure for the PAI-

BOR with an acceptable model fit: (1) *Impulsivity*, (2) *Mood Instability*, (3) *Chronic Emptiness*,

(4) S*eparation Concerns*, (5) *Negative Relationships*, and (6) *Reckless Spending*. The initial six-

factor CFA model indicated that the latent variable covariance matrix (PSI) was not positive

definite due to PAI-BOR item 22 ("I spend money too easily") causing a negative residual

variance for the *Reckless Spending* factor. Considering that the *Reckless Spending* factor

comprised only two item loadings (i.e., items 22 and 24) and is conceptually encompassed by

impulsivity according to the DSM-5-TR, the decision was made to remove the two items and the

Reckless Spending factor from the model (American Psychiatric Association, 2022). The

resulting five-factor model demonstrated acceptable fit indices (RMSEA = .075, 90% CI: [.070,

.081]; CFI = .919; TLI = .906; SRMR = .061).

The model modification indices and residual variances were analyzed for the potential

need to include WITH statements to account for correlated error terms among observed

variables. However, given the absence of a strong theoretical rationale for introducing such

WITH statements, they were not warranted nor included. To explore alternative model

structures, various exploratory factor analyses (EFA) were carried out (i.e., three-factor, four-

factor, five-factor, and six-factor models). The results indicated that these alternative EFA factor

models lacked conceptual coherence, making it challenging to differentially identify the factors

as distinct constructs. Therefore, the five-factor CFA model, supported by theoretical and

empirical reasoning, was selected as the most appropriate representation of the data. Tables 3, 4, and 5 provide comprehensive information on factor loadings, descriptive statistics (i.e., minimum, maximum, mean, standard deviation, skewness, and kurtosis), and factor correlations. Two of the correlations-- between negative relationships and separation concerns ($r = .85$, $p < .01$) and separation concerns and chronic emptiness ($r = .78$, $p < .01$)-- are high, indicating a strong conceptual relationship between these factors. This is consistent with Jackson and Trull's (2001) findings, which might reflect that the first pair of factors capture different aspects of relationships while the second pair capture different facets of solitariness. Other factor analyses relating to BPD symptoms also found high factor correlations which might reveal that some traits influence the level of other traits over time or that different traits of the disorder are present at different times; for instance, Sanislow and colleagues (2002) factor correlations ranged from .90 to .99. Finally, Figure 6 provides a visual for the factor loadings of the PAI-BOR items (i.e., indicator variables) and estimated covariance among the latent factors.

Table 3. PAI-BOR CFA Standardized Factor Loadings

Latent Factor	PAI-BOR Item	Factor Loading	Mean	SD
Impulsivity	13	.73	.79	.93
	17	.76	.33	.68
	18	.77	1.32	1.15
	21	.71	.77	.91
	23	.75	.54	.78
Mood Instability	1	.82	1.59	.99
	4	.89	1.31	1.05
	7	.67	1.62	.84
	10	.68	.74	.90
Chronic Emptiness	2	.77	1.62	1.02
	5	.87	1.40	1.14
	11	.63	1.82	1.03
	12	.53	1.92	.92
	14	.57	1.49	.94
	19	.34	1.36	1.00
Separation Concerns	6	.71	1.42	1.11
	8	.70	1.52	1.10
	15	.49	1.36	1.00
Negative Relationships	3	.73	.97	.99
	9	.66	1.96	1.03
	16	.66	1.37	1.09
	20	.25	1.57	.84

Note. All standardized factor loadings are statistically significant ($p < .001$).

Table 4. Descriptive Statistics for Standardized PAI-BOR Factors

Variable	Min	Max	Mean	SD	Skewness	Kurtosis
Impulsivity	-1.40	2.15	.019	.62	.23	-.11
Mood Instability	-1.82	2.19	.004	.74	.03	-.41
Chronic Emptiness	-1.73	1.80	-.001	.69	-.08	-.33
Separation Concerns	-1.66	1.78	.002	.62	.01	-.27
Negative Relationships	-1.65	1.75	.003	.63	-.01	-.28

Table 5. Zero-Order Correlations Among PAI-BOR Factors

Variable	1.	2.	3.	4.	5.
1. Impulsivity	-				
2. Mood Instability	.73**	-			
3. Chronic Emptiness	.66**	.74**	-		
4. Separation Concerns	.66**	.71**	.78**	-	
5. Negative Relationships	.64**	.71**	.68**	.85**	-

Note. **$p < .01$.

Figure 6. PAI-BOR CFA Factor Loadings and Estimated Covariance Among Latent Factors
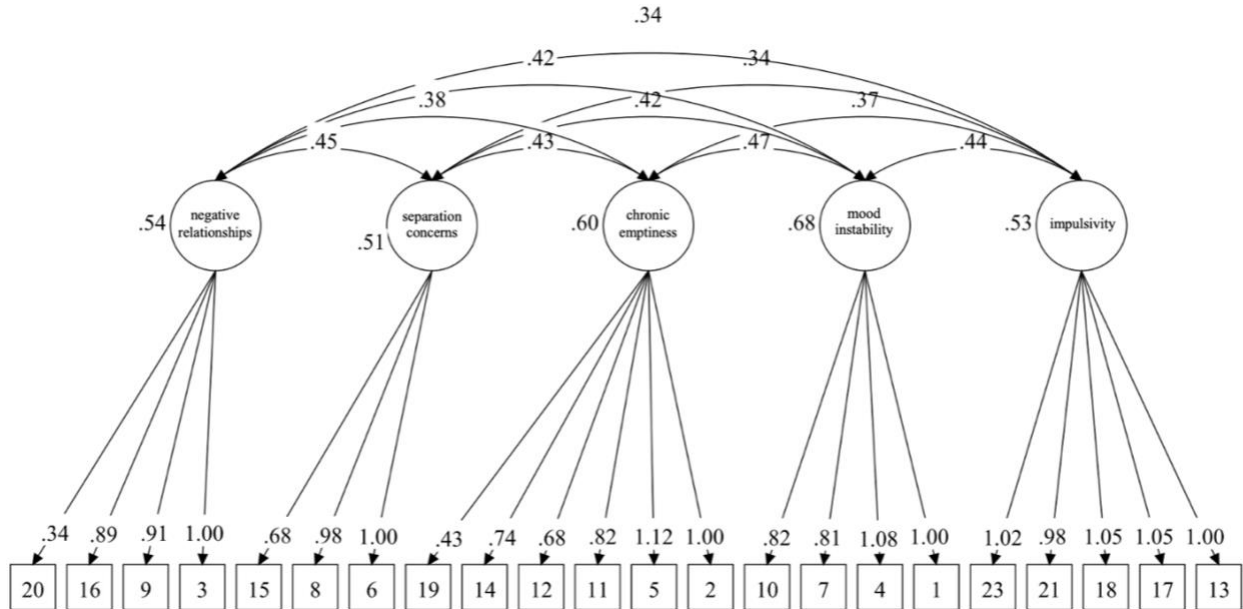
Latent Profile Analysis

Latent Profile Analysis was carried out in Mplus version 8.10 to determine how BPD profiles with shared characteristics emerge from the data (Muthén & Muthén, 1998-2023). Specifically, the following five factor scores identified from the CFA of the PAI-BOR were used as indicator variables: (1) *Impulsivity*, (2) *Mood Instability*, (3) *Chronic Emptiness*, (4) S*eparation Concerns*, and (5) *Negative Relationships*. Models with 2-to-6 profile solutions were estimated and their fit indices were compared (see Table 6). I accepted the 3-profile solution based on the best combination of statistics and theoretical rationale. The AIC, BIC, and aBIC suggested a better fit in the 3-profile solution compared to the 2-profile solution (i.e., lower values) and as the number of profiles increased, the fit indices began to flatten out. Based on entropy, all of the profiles exhibited high classification accuracy (i.e., above .80; Spurk et al., 2020). In alignment with the AIC, BIC, and aBIC, the aLMR LRT revealed that the 3-profile

solution was a better fit than the 2-profile solution and that the 4-profile solution was not significantly better. Relating to the size of the subgroups, the 3-profile and 4-profile solutions indicated profiles with optimal sizes that did not have very small percentages ($\leq 6\%$ of the sample; 30 cases) or the vast majority ($\geq 51\%$ of the sample; 257 cases). Lastly, the 3-profile solution made the most theoretical sense; the 2-profile, 4-profile, 5-profile, and 6-profile solutions did not reveal patterns with important qualitative distinctions compared to the 3-profile solution because the higher profile-solutions seemed to merely still represent varying degrees of severity.

Table 6. Model Fit Indices for LPA

	AIC	BIC	aBIC	Entropy	aLMR LRT (*p* value)	Class Proportions
2 Profile Model	3667.13	3734.69	3683.90	.89	1359.25 (< .000)	Profile 1 = .52 Profile 2 = .48
3 Profile Model	**2980.79**	**3073.68**	**3003.85**	**.91**	**680.13 (.018)**	**Profile 1 = .28 Profile 2 = .47 Profile 3 = .25**
4 Profile Model	2647.17	2765.40	2676.52	.90	336.61 (.673)	Profile 1 = .18 Profile 2 = .34 Profile 3 = .36 Profile 4 = .12
5 Profile Model	2350.43	2493.99	2386.08	.91	300.69 (.021)	Profile 1 = .06 Profile 2 = .22 Profile 3 = .31 Profile 4 = .29 Profile 5 = .12
6 Profile Model	2214.89	2383.80	2256.83	.91	143.69 (.078)	Profile 1 = .07 Profile 2 = .27 Profile 3 = .24 Profile 4 = .21 Profile 5 = .15 Profile 6 = .06

Note. AIC = Akaike information criterion. BIC = Bayesian information criterion. aBIC = sample-size adjusted BIC. aLMR LRT = adjusted Lo-Mendell-Rubin likelihood ratio test.

The 3-profile solution emerged based on different endorsement patterns of the five PAI-BOR BPD factors, which is depicted in Figure 7. The first profile ($N = 140$; 27.8%) was characterized by low scores across all five BPD factors, and thus represents a High Functioning profile (PAI-BOR $M = 18.00$, $SE = .43$). The second profile ($N = 239$; 47.4%) was characterized

by slightly above average scores across all five BPD factors, and thus represents a Moderate Functioning profile (PAI-BOR $M = 33.17$, $SE = .31$). The final third profile ($N = 125$; 24.8%) was characterized by high scores across all five BPD factors, and thus represents a Low Functioning profile (PAI-BOR $M = 49.44$, $SE = .56$). Comparatively, the Moderate Functioning profile comprises approximately half of the sample whereas the High Functioning and Low Functioning profiles each comprise approximately a fourth of the sample.

Figure 7. Means of Indicators for 3-Profile Solution

	Profile 1 (27.8%) "High Functioning"	Profile 2 (47.4%) "Moderate Functioning"	Profile 3 (24.8%) "Low Functioning"
■ Impulsivity	-0.622	0.023	0.729
■ Mood Instability	-0.831	0.037	0.876
■ Chronic Emptiness	-0.761	0.029	0.792
■ Separation Concerns	-0.734	0.037	0.759
■ Negative Relationships	-0.732	0.034	0.768
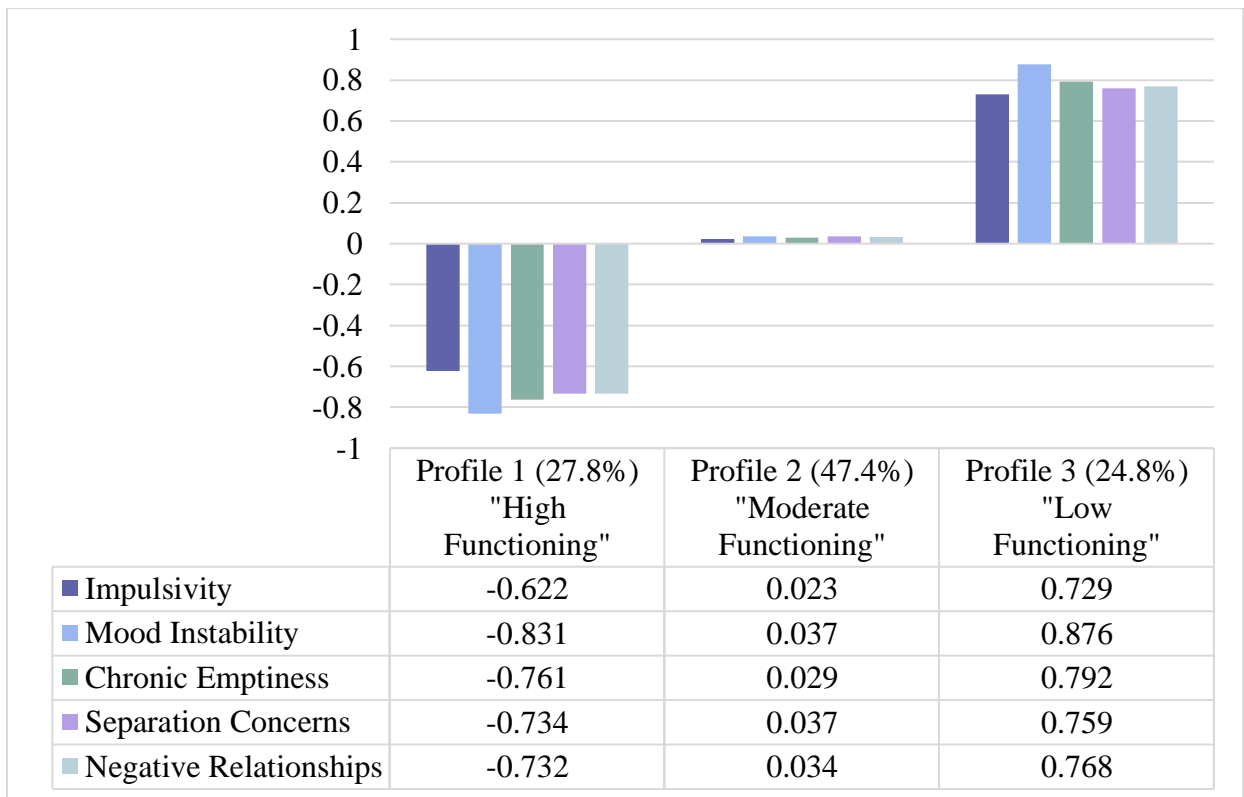
Mean Level Differences in Distal Outcomes

Following selection of the 3-Profile solution, I compared the profiles on six functional life outcomes using the three-step LPA approach with distal outcome analysis (Asparouhov & Muthén, 2014). Specifically, unconstrained equality tests of means across classes estimated profile means and standard errors on each distal outcome as well as approximate chi-square

differences between the profiles; the models allowed profiles to have different means or probabilities for the five factors. These outcomes included global life, social, romantic (trust and attachment), and emotional functioning (emotional intelligence and emotion regulation). Table 7 displays each of the three profiles mean and standard error estimates on the functional life outcomes. To facilitate understanding, Figure 8 displays the z-score estimates for each of the three profiles on the functional life outcomes. In summary, the High Functioning profile scored approximately 1 standard deviation above the mean, the Moderate Functioning profile scored approximately average, and the Low Functioning profile scored approximately 1 standard deviation below the mean, across all functional life outcomes.

Relating to global life functioning (i.e., MQLI), unconstrained chi-square difference test indicated that the High Functioning profile ($M = 81.18$) reported significantly better global life functioning compared to the Moderate Functioning profile ($M = 68.49$; $\chi^2(1) = 79.92$, $p < .001$), and the Moderate Functioning profile reported significantly better global life functioning compared to the Low Functioning profile ($M = 57.72$; $\chi^2(1) = 36.24$, $p < .001$).

Similarly, in terms of social functioning (i.e., SFQ), the High Functioning profile ($M = 7.48$) reported significantly better social functioning compared to the Moderate Functioning profile ($M = 9.80$; $\chi^2(1) = 86.20$, $p < .001$), and the Moderate Functioning profile reported significantly better social functioning compared to the Low Functioning profile ($M = 11.88$; $\chi^2(1) = 51.83$, $p < .001$).

Interestingly, none of the three profiles differed significantly on trust in romantic functioning, though they still exhibited similar patterns compared to the other functional life outcomes. The High Functioning profile ($M = 79.03$) scored slightly better on trust than did the Moderate Functioning profile ($M = 77.82$; $\chi^2(1) = .68$, $p = .409$), and the Moderate Functioning

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profile scored slightly better on trust than did the Low Functioning profile ($M = 76.32$; $\chi^2(1) = .92$, $p = .338$). Further, the High Functioning profile did not score significantly better on trust than did the Low Functioning profile ($\chi^2(1) = 2.46$, $p = .12$).

Concerning attachment styles (i.e., ECR-R), the High Functioning profile ($M = 95.24$) reported significantly better secure attachment compared to the Moderate Functioning profile ($M = 119.53$; $\chi^2(1) = 42.30$, $p < .001$). The Moderate Functioning profile reported significantly better secure attachment compared to the Low Functioning profile ($M = 144.77$; $\chi^2(1) = 45.98$, $p < .001$).

Likewise, scores on emotional intelligence (i.e., SSEIT) indicated similar patterns. The High Functioning profile ($M = 125.99$) reported significantly better ability to perceive and use emotions relative to the Moderate Functioning profile ($M = 120.14$; $\chi^2(1) = 14.75$, $p < .001$), and the Moderate Functioning profile reported significantly better ability to perceive and use emotions relative to the Low Functioning profile ($M = 115.47$; $\chi^2(1) = 7.55$, $p = .006$).

In alignment with four of the other functional life outcomes, emotion regulation (i.e., DERS) was most evident in the High Functioning profile ($M = 67.34$) compared to the Moderate Functioning profile ($M = 92.17$; $\chi^2(1) = 170.12$, $p = .006$). In addition, the Moderate Functioning profile exhibited better emotion regulation compared to the Low Functioning profile ($M = 117.68$; $\chi^2(1) = 128.72$, $p = .006$).

Table 7. LPA 3-Profile Solution Means and Standard Errors in Functional Life Outcomes

	Mean (Standard Error)		
	High Functioning	Moderate Functioning	Low Functioning
Global Life (MQLI)	81.18 (1.04)***	68.49 (.97)***	57.72 (1.51)***
Social (SFQ)	7.48 (.19)***	9.80 (.16)***	11.88 (.24)***
Trust in Close Relationships (TRUST)	79.03 (1.16)	77.82 (.90)	76.32 (1.28)
Attachment (ECR-R)	95.24 (2.93)***	119.53 (2.31)***	144.77 (2.92)***
Emotional Intelligence (SSEIT)	125.99 (1.20)***	120.14 (.94)***	115.47 (1.42)***
Emotion Regulation (DERS)	67.34 (1.38)***	92.17 (1.31)***	117.68 (1.83)***

Note. Unconstrained chi-square difference tests were used to compare model fit for distal outcomes between the High Functioning and Moderate Functioning profiles, Moderate Functioning and Low Functioning profiles, and High Functioning and Low Functioning profiles.

*** Statistically significant differences from the other two profiles ($p < .001$).

Figure 8. Z-Score Patterns of Functional Life Outcomes in 3-Profile Solution
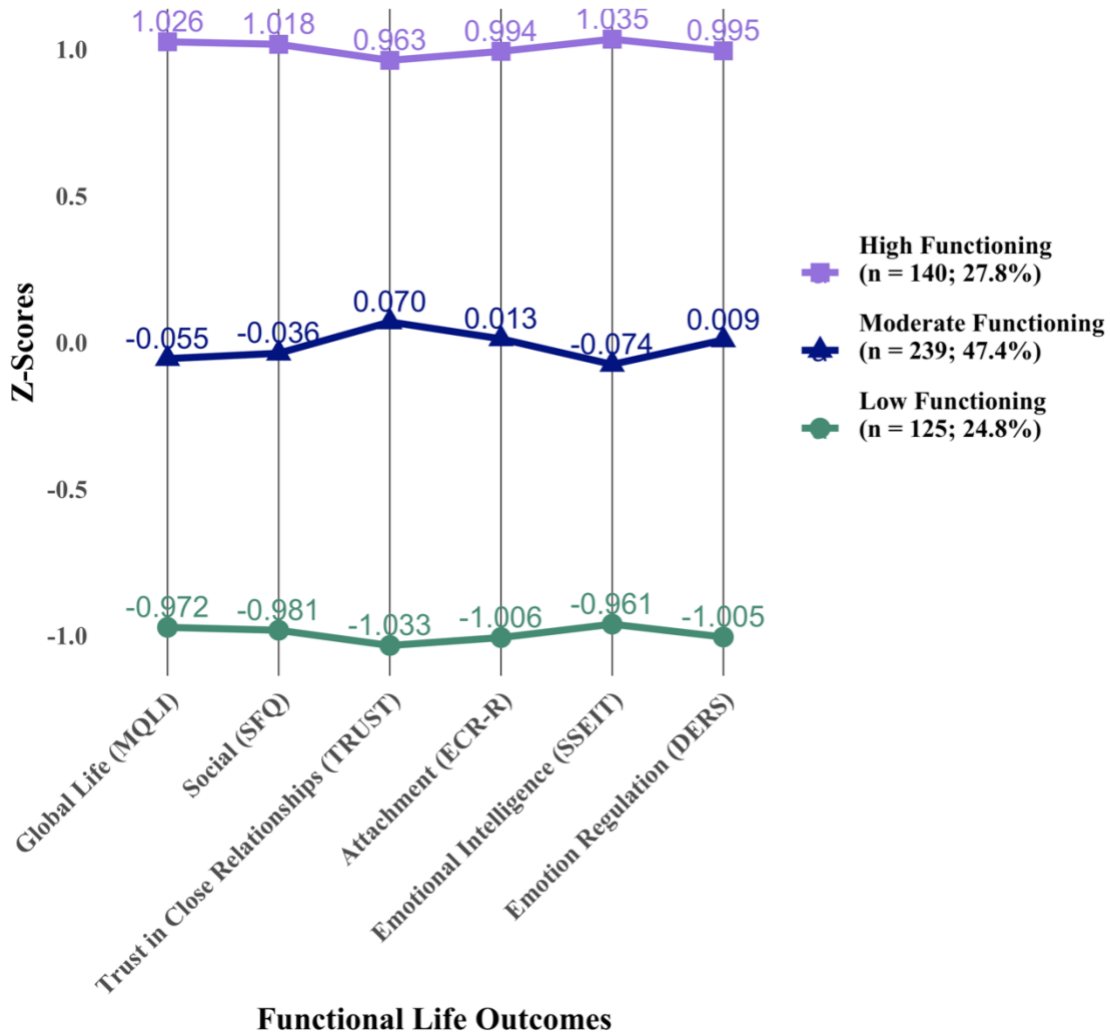
Note. The functional life outcome measures z-scores have been modified to reflect that higher scores are indicative of better functioning and lower scores are indicative of poorer functioning. The three profiles scored significantly different from each other on all of the outcome measures except for Trust in Close Relationships (TRUST).

CHAPTER IV: DISCUSSION

Borderline personality disorder (BPD) is a frequently diagnosed personality disorder known for causing significant distress. As defined in the DSM-5-TR, individuals with BPD exhibit a wide range of symptoms, including instability in interpersonal relationships, self-image, affect, and impulsivity (American Psychiatric Association, 2022). Existing literature further supports this characterization, revealing the following areas of impairment: (a) impairment in global life functioning (e.g., quality of life, meaning in life; Marco et al., 2017; Thompson et al., 2020), (b) impairment in social functioning (e.g., negative biases toward social situations, increased feelings of rejection, difficulty repairing cooperation after disappointment; Lis & Bohus, 2013; Ooi et al., 2020; Renneberg et al., 2012), (c) impairment in trust (e.g., appraise relationships more negative, conflictual and unsatisfactory, biased trustworthiness appraisals, greater diminished trustworthiness after threatening situation; Botsford & Renneberg, 2020; Masland & Hooley, 2020; Miano et al., 2017), (d) impairment in attachment (e.g., insecure attachment styles; Bouchard et al., 2009; Smith & South, 2020), (e) impairment in emotional intelligence (e.g., reduced ability to estimate how own emotions are perceived by others, difficulty understanding others' emotions; De Meulemeester et al., 2021; Peter et al., 2013), and (f) impairment in emotion regulation (e.g., inability to effectively regulate emotions and inhibit impulsive behavior; Gratz & Roemer, 2004).

Nonetheless, despite our understanding of the multifaceted nature of BPD symptoms and their impact across multiple life domains, research has yet to identify how these symptoms manifest differently in affected individuals. The present study sought to address this gap by parsing out heterogeneity within BPD traits. It first confirmed five key BPD factors using the PAI-BOR, a commonly used assessment measure: (1) *Impulsivity*, (2) *Mood Instability*, (3)

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Chronic Emptiness, (4) S*eparation Concerns*, and (5) *Negative Relationships*. Based on

individuals' endorsement of BPD factors, the analyses then identified three BPD clusters

comprised of High Functioning, Moderate Functioning, and Low Functioning. Finally, the study

examined how these three clusters predict functional life outcomes (i.e., global life functioning,

social functioning, romantic functioning [trust and attachment], and emotional functioning

[emotional intelligence and emotion regulation]). Notably, the High Functioning profile

demonstrated the most favorable scores, the Moderate Functioning profile scored in the average

range, and the Low Functioning profile scored the poorest across all functional life outcomes,

except for Trust, which did not significantly vary across profiles.

BPD Key Factors

Although the DSM-5-TR is the standard diagnostic manual used by clinicians to diagnose

BPD, the PAI-BOR is an assessment measure that is frequently utilized in clinical settings to

dimensionally measure the presence and severity of borderline traits (Morey, 1991). Various

factor analyses have been conducted on the PAI-BOR to identify a latent factor structure;

however, none have been replicated extensively enough to be universally accepted. Jackson and

Trull (2001) proposed a six-factor structure using a typical population, which was predicted to

uphold in the present study in Hypothesis 1: (1) *Impulsivity*, (2) *Mood Instability*, (3) *Chronic*

Emptiness, (4) S*eparation Concerns*, (5) *Negative Relationships*, and (6) *Reckless Spending*.

Confirmatory factor analysis (CFA) findings did not fully support my first hypothesis, being that

the *Reckless Spending* factor imposed on the stability and validity of the model. This is likely

due to impulsivity encompassing reckless spending (American Psychiatric Association, 2022;

Chamorro et al., 2012), which led to high covariance among the factors and thus, poor construct

validity. Irrespective of high covariance, the *Reckless Spending* factor consisted of only 2 items,

plausibly also decreasing reliability. It is therefore suggested for clinicians and researchers using the PAI-BOR moving forward to skip scoring items 22 and 24 (i.e., the *Reckless Spending* factor) when categorizing individuals' BPD traits. Instead, they are urged to utilize the *Impulsivity*, *Mood Instability*, *Chronic Emptiness*, S*eparation Concerns*, and *Negative Relationships* factors as detailed in the present study to ensure a more accurate assessment of borderline traits. Using the five identified PAI-BOR factors also supports cognitive parsimony, reduces cognitive load, and provides a way to extend research in an efficient, universal way for researchers and clinicians.

Clusters of BPD

The present study adopted a person-centered approach by means of utilizing a latent profile analysis (LPA) to identify meaningful clusters of BPD traits. Few studies have taken this approach and in instances where they have, the findings have differed substantially, lacking a universal consensus. Further, no research to date has utilized a combination of a factor analysis and LPA to better understand the heterogeneity presented in BPD. By using the estimated CFA factor scores (instead of assuming that they load equally) as indicators, I have increased confidence in the validity of the five BPD factor traits as measures of the intended latent constructs.

Hypothesis 2 posited the emergence of three distinct LPA profiles: (1) Low Pathology characterized by scoring low across all BPD factors; (2) Emotionally Unstable characterized by scoring high on the *Impulsivity*, *Mood Instability*, *Chronic Emptiness*, and *Reckless Spending* factors; and (3) Relationship Problems characterized by scoring high on the S*eparation Concerns* and *Negative Relationships* factors. My second hypothesis was partially supported as three clusters were identified, with one profile representing a Low Pathology, or High Functioning

profile (i.e., low scores across all BPD factors). However, the expected Emotionally Unstable

and Relationship Problems profiles did not emerge, deviating from my initial hypothesis.

Instead, a Moderate Functioning (i.e., average scores across all BPD factors) and a Low

Functioning profile (i.e., high scores across all BPD factors) emerged. These findings indicate

that individuals with BPD tend to exhibit all traits rather than subgroups of traits, and all five of

the traits are manifested at a relatively similar severity to each other for each individual.

Recognizing that scale construction of the PAI-BOR selected only high-alpha items to obtain

good construct validity, it is possible that including the original discarded items in subsequent

latent profile analyses could provide insights into how certain traits may be endorsed by specific

BPD subgroups.

Identifying different clusters of BPD based on trait severity carries important clinical

implications. Namely, the present study provides support for the PAI-BOR as an effective

unitary, continuous scale for assessing BPD trait severity, without subclusters of traits; in other

words, PAI-BOR items collectively function well in predicting levels of BPD symptom severity.

Understanding an individual's overall trait severity can enhance our ability to predict functional

life outcomes, as detailed below. In addition, the present study revealed that nearly half of the

individuals fell into the Moderate Functioning profile, a quarter into the High Functioning

profile, and another quarter into the Low Functioning profile. Notably, the Low Functioning

profile in this study endorsed clinically significant BPD features, surpassing the PAI-BOR

clinical cut-off score of 38 (PAI-BOR $M = 49.44$, $SE = .56$; Morey, 1991). Thus, cognizant that

this study was conducted using a typical early-adult population suggests that nearly 25% of this

population may exhibit clinically impairing levels of BPD traits. Finally, the observation that

individuals score relatively similarly across all five BPD factors, regardless of severity level,

offers clarity on symptom manifestation and crucial treatment targets. It highlights the need to intervene with all BPD traits rather than a select few, which is particularly important for individuals with high levels of BPD symptoms, as each trait can be impairing.

Functional Life Outcomes in BPD

Various studies have cumulatively demonstrated poor outcomes across areas of life in individuals with BPD. Yet, none have comprehensively assessed how outcomes vary within the same sample of individuals. The present study therefore examined how the three distinct BPD clusters predict six functional life outcomes to help to clarify how BPD traits contribute to outcomes as well as improve confidence that differences in outcomes are in fact due to differences in BPD traits.

Hypothesis 3 found some support in the present study, as individuals in the High Functioning profile scored best across all outcome measures. However, the two other profiles did not align with my third hypothesis due to not exhibiting differential impairment in various areas of functional life outcomes. Instead, individuals in the Moderate Functioning profile scored averagely across all life outcomes while those in the Low Functioning profile scored worst across all life outcomes. My hypothesis suggesting that one profile would experience dysfunction in global life and emotional functioning outcomes whereas another profile would experience dysfunction in social and romantic functioning outcomes was not borne out likely because individuals scored similarly across all BPD traits within each profile, thereby impacting all areas of life uniformly.

Surprisingly, another substantial finding of this study revealed that individuals' endorsement of romantic trust did not significantly differ based on BPD cluster membership. Individuals consistently scored in the middle range, indicating average levels of trust. This

contradicts previous literature that has suggested that individuals with BPD traits have greater

difficulty trusting others, judge others as less trustworthy, and have greater diminished

trustworthiness of partners after situations that they perceive as threatening compared to typical,

healthy individuals (Botsford & Renneberg, 2020; Masland & Hooley, 2020; Miano et al., 2017).

The absence of significant differences in trust across the three profiles could potentially be

attributed to the participants' relatively young age. Literature indicates that older adults tend to

be more trusting than young adults, aligning with the observation that the High Functioning

profile only endorsed average rather than high levels of trust (Bailey & Leon, 2019; Li & Fung,

2013). Conversely, as undergraduates, participants might not have experienced previous

impactful trust-diminishing events and may have had trust encouraged through their college

education (Huang et al., 2011). This might explain why the Low Functioning profile did not

endorse low levels of trust. Finally, the study's inclusion criterion requiring individuals to have

been in or currently be in a romantic relationship might have increased participation from

individuals currently in relationships, biasing the sample and leading to similar reported trust

across profiles.

      Taken altogether, the findings provide support for assessing the prognosis of individuals'

contingent on their severity of BPD traits. Specifically, an individual's endorsement of

impulsivity, mood instability, separation concerns, and negative relationships may directly

predict their global life functioning as well as functioning in the following specific areas: social,

romantic attachment, emotional intelligence, and emotion regulation. Concerning intervention,

these traits may be targeted to prevent individuals from following a maladaptive trajectory and

conversely promote optimal outcomes. As an illustration, many of the current BPD interventions

(e.g., dialectical behavior therapy [DBT]; Linehan, 2015) incorporate a myriad of focal areas,

including behavioral activation, distress tolerance skills, emotion regulation skills, interpersonal effectiveness training, and mindfulness, which could be deliberately tailored to target each of the five BPD traits. Additionally, identifying an individual's trait severity using PAI-BOR factor scores or total score might predict the needed duration and intensity of treatment (e.g., number of sessions, intensive versus typical outpatient treatment). However, additional research is necessary to confirm these treatment recommendations.

Study Limitations and Future Directions

The COVID pandemic necessitated exclusive reliance on self-report measures in my study. It was not feasible to have student participants come in-person to the lab for an experimental manipulation or an in-person evaluation. While procedures were put in place to prevent biased responses (e.g., anonymous responses, inattention measure, randomized questions, questions assessing participants' memory was limited to one month), cross-sectional self-report measures nonetheless present inherent limitations. Namely, other confounding variables such as participants' mood, motivation, and subjective interpretation of questions may lead to inaccurate responses. In addition, measurement error may be correlated across measures and lead to spurious associations. For instance, exclusively using self-report measures may result in shared method variance and implementing various measures that reflect the same overall functional outcome (e.g., trust and attachment measures for romantic functioning) may exhibit conceptual overlap suggested by Meehl's "crud factor" (Orben & Lakens, 2020). Thus, it is suggested that future research assess the same constructs in other capacities to increase confidence in findings.

In addition, the present study recruited from a university population and required that participants identified as female or male and were 18 to 22 years of age to align with Jackson and

Trull's (2001) six-factor analysis of the PAI-BOR. This relatively homogeneous sample limits the generalizability of findings to other populations with nonbinary gender or differing age, education status, and other identities. Future research should replicate the study with diverse populations to better understand the variances in BPD clusters and functional life outcomes across different demographics. For instance, replicating the present study with middle-aged adults would be especially interesting to better understand trait and functional outcome differences across stages of life given that BPD symptom severity wanes as individuals enter their 30's and 40's (American Psychiatric Association, 2022). Additionally, being that the study was comprised of a typical population, the findings are restricted to nonclinical individuals; although it should be noted that the Low Functioning profile endorsed a mean PAI-BOR score that is above the typical clinical cut-off score. Replication in a fully clinical sample would be desirable, although obtaining a large number of participants with BPD is difficult to procure in most settings within a reasonable period of time.

Thirdly, the three-step LPA approach was carried out to predict how BPD clusters predict functional life outcomes; however, it is impossible to know with certainty through self-reports the direction of dependence between the clusters and functional outcomes. Therefore, this study is preliminary in establishing how the five BPD traits may be utilized to categorize profiles and predict specific functional outcomes. It is strongly encouraged that subsequent research utilizes various methods to explore the directional relationship between these constructs, including experimental manipulation, ecological momentary assessments, and longitudinal designs, to better understand the developmental pathways of outcomes.

Finally, the study's findings reveal direct associations between BPD trait severity (based on High Functioning, Moderate Functioning, and Low Functioning profiles) and functional life

outcomes (i.e., global life, social, romantic attachment, emotional intelligence, and emotion regulation); notably, I found strong support for the PAI-BOR as a valid continuous measure in assessing BPD trait severity and predicting various functional life outcomes. While I suggest that the five BPD traits (i.e., impulsivity, mood instability, chronic emptiness, separation concerns, and negative relationships) comprising each BPD cluster be targeted in intervention to facilitate improved outcomes, it is essential that research tests the effectiveness of such interventions and provide empirical support. For example, of the BPD treatments that currently exist (i.e., DBT, BPD Compass; Linehan, 2015; Sauer-Zavala et al., 2023), there are none that specifically target all five factor traits found in this study. Further, a meta-analysis by Woodbridge and colleagues (2022) revealed that approximately half of individuals with BPD did not respond to psychotherapy treatment, underscoring the need to improve intervention efforts; although treatment was defined broadly in this analysis, about a third of the studies included DBT which is the current standard treatment for BPD. For these reasons, developing an evidence-based treatment that specifically maps onto these BPD traits within one manual may prove advantageous.

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DSM-5-TR Borderline Personality Disorder Diagnostic Criteria

(American Psychiatric Association, 2022, p. 752-753)

A pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity, beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following:

1. Frantic efforts to avoid real or imagined abandonment. (**Note**: Do not include suicidal or self-mutilating behavior covered in Criterion 5.)

2. A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.

3. Identity disturbance: markedly and persistently unstable self-image or sense of self.

4. Impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating). (**Note**: Do not include suicidal or self-mutilating behavior covered in Criterion 5.)

5. Recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior.

6. Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days).

7. Chronic feelings of emptiness.

8. Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights).

9. Transient, stress-related paranoid ideation or severe dissociative symptoms.

Measure 1. Personality Assessment Inventory- Borderline Features Scale Sample Items

(PAI-BOR; Morey, 1991)

<u>Instructions</u>: Read each statement and decide if it is an accurate statement about you.

If the statement is FALSE, NOT AT ALL TRUE, select False.
If the statement is SLIGHTLY TRUE, select Slightly True.
If the statement is MAINLY TRUE, select Mainly True.
If the statement is VERY TRUE, select Very True.

Give <u>your own opinion</u> of yourself. Be sure to answer every statement.

	False	Slightly True	Mainly True	Very True
1. My mood can shift quite suddenly.	○	○	○	○
3. My relationships have been stormy.	○	○	○	○
8. I worry a lot about other people leaving me.	○	○	○	○
12. I rarely feel very lonely.	○	○	○	○
13. I sometimes do things so impulsively that I get into trouble.	○	○	○	○

Measure 2. Multicultural Quality of Life Index (MQLI; Mezzich et al., 2011)

Instructions: Please indicate the quality of your health and life at present, from "poor" to "excellent," by selecting any of the ten points on the line for each of the following items:

	Poor: 1	2	3	4	5	6	7	8	9	Excellent: 10
Physical Well-Being (feeling energetic, free of pain and physical problems)	○	○	○	○	○	○	○	○	○	○
Psychological/Emotional Well-Being (feeling good, comfortable with yourself)	○	○	○	○	○	○	○	○	○	○
Self-Care and Independent Functioning (carrying out daily living tasks; making own decisions)	○	○	○	○	○	○	○	○	○	○
Occupational Functioning (able to carry out work, school, and homemaking duties)	○	○	○	○	○	○	○	○	○	○
Interpersonal Functioning (able to respond and relate well to family, friends, and groups)	○	○	○	○	○	○	○	○	○	○
Social-Emotional Support (availability of people you can trust and who can offer help and emotional support)	○	○	○	○	○	○	○	○	○	○

Community and Services Support (pleasant and safe neighborhood, access to financial, informational, and other resources)	○	○	○	○	○	○	○	○	○	○
Personal Fulfillment (experiencing a sense of balance, dignity, and solidarity; enjoying sexuality, the arts, etc.)	○	○	○	○	○	○	○	○	○	○
Spiritual Fulfillment (experiencing faith, religiousness, and transcendence beyond ordinary material life)	○	○	○	○	○	○	○	○	○	○
Global Perception of Quality of Life (feeling satisfied and happy with your life in general)	○	○	○	○	○	○	○	○	○	○

Measure 3. Social Functioning Questionnaire (SFQ; Tyrer et al., 2005)

Please look at the statements below and tick the reply that comes closest to how you have been recently.

	Most of the time	Quite often	Sometimes	Not at all
I complete my tasks at work and home satisfactorily	○	○	○	○

	Most of the time	Quite often	Sometimes	Not at all
I find my tasks at work and at home very stressful.	○	○	○	○

	No problems at all	Slight worries only	Definite problems	Very severe problems
I have no money problems.	○	○	○	○

	Severe difficulties	Some problems	Occasional problems	No problems at all
I have difficulties in getting and keeping close relationships.	○	○	○	○

	Severe problems	Moderate problems	Occasional problems	No problems at all
I have problems in my sex life.	○	○	○	○

	Almost all the time	Much of the time	Not usually	Not at all
I feel lonely and isolated from other people.	○	○	○	○

	Very much	Sometimes	Not often	Not at all
I enjoy my spare time.	○	○	○	○

Measure 4. Trust in Close Relationships Scale (Rempel et al., 1985)

Using the 7-point scale shown below, indicate the extent to which you agree or disagree with the following statements as they relate to someone with whom you have a close interpersonal relationship.

	-3: Strongly Disagree	-2	-1	0: Neutral	1	2	3: Strongly Agree
1. My partner has proven to be trustworthy and I am willing to let him/her engage in activities which other partners find too threatening.	○	○	○	○	○	○	○
2. Even when I don't know how my partner will react, I feel comfortable telling him/her anything about myself, even those things of which I am ashamed.	○	○	○	○	○	○	○
3. Though times may change and the future is uncertain, I know my partner will always be ready and willing to offer me strength and support.	○	○	○	○	○	○	○
4. I am never certain that my partner won't do something that I dislike or will embarrass me.	○	○	○	○	○	○	○
5. My partner is very unpredictable. I never know how he/she is going to act from one day to the next.	○	○	○	○	○	○	○

6. I feel very uncomfortable when my partner has to make decisions which will affect me personally.

○ ○ ○ ○ ○ ○ ○

7. I have found that my partner is unusually dependable, especially when it comes to things which are important to me.

○ ○ ○ ○ ○ ○ ○

8. My partner behaves in a very consistent manner.

○ ○ ○ ○ ○ ○ ○

9. Whenever we have to make an important decision in a situation we have never encountered before, I know my partner will be concerned about my welfare.

○ ○ ○ ○ ○ ○ ○

10. Even if I have no reason to expect my partner to share things with me, I still feel certain that he/she will.

○ ○ ○ ○ ○ ○ ○

11. I can rely on my partner to react in a positive way when I expose my weaknesses to him/her.

○ ○ ○ ○ ○ ○ ○

12. When I share my problems with my partner, I know he/she will respond in a loving way even before I say anything.

○   ○   ○   ○   ○   ○   ○

13. I am certain that my partner would not cheat on me, even if the opportunity arose and there was no chance that he/she would get caught.

○   ○   ○   ○   ○   ○   ○

14. I sometimes avoid my partner because he/she is unpredictable and I fear saying or doing something which might create conflict.

○   ○   ○   ○   ○   ○   ○

15. I can rely on my partner to keep the promises he/she makes to me.

○   ○   ○   ○   ○   ○   ○

16. When I am with my partner, I feel secure in facing unknown new situations.

○   ○   ○   ○   ○   ○   ○

17. Even when my partner makes excuses which sound rather unlikely, I am confident that he/she is telling the truth.

○   ○   ○   ○   ○   ○   ○

Measure 5. Experiences in Close Relationships-Revised Scale (ECR-R; Fraley et al., 2000)

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship.

Please rate each question below indicating how much you agree or disagree with each statement.

	Strongly Disagree: 1	2	3	4	5	6	Strongly Agree: 7
I'm afraid that I will lose my partner's love.	○	○	○	○	○	○	○
I often worry that my partner will not want to stay with me.	○	○	○	○	○	○	○
I often worry that my partner doesn't really love me.	○	○	○	○	○	○	○
I worry that romantic partners won't care about me as much as I care about them.	○	○	○	○	○	○	○
I often wish that my partner's feelings for me were as strong as my feelings for him or her.	○	○	○	○	○	○	○
I worry a lot about my relationships.	○	○	○	○	○	○	○
When my partner is out of sight, I worry that he or she might become interested in someone else.	○	○	○	○	○	○	○

When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.

○　　○　　○　　○　　○　　○　　○

I rarely worry about my partner leaving me.

○　　○　　○　　○　　○　　○　　○

My romantic partner makes me doubt myself.

○　　○　　○　　○　　○　　○　　○

I do not often worry about being abandoned.

○　　○　　○　　○　　○　　○　　○

I find that my partner(s) don't want to get as close as I would like.

○　　○　　○　　○　　○　　○　　○

Sometimes romantic partners change their feelings about me for no apparent reason.

○　　○　　○　　○　　○　　○　　○

My desire to be very close sometimes scares people away.

○　　○　　○　　○　　○　　○　　○

I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.

○　　○　　○　　○　　○　　○　　○

It makes me mad that I don't get the affection and support I need from my partner.

○　　○　　○　　○　　○　　○　　○

I worry that I won't measure up to other people.

○　　○　　○　　○　　○　　○　　○

My partner only seems to notice me when I'm angry.

○   ○   ○   ○   ○   ○   ○

I prefer not to show a partner how I feel deep down.

○   ○   ○   ○   ○   ○   ○

I feel comfortable sharing my private thoughts and feelings with my partner.

○   ○   ○   ○   ○   ○   ○

I find it difficult to allow myself to depend on romantic partners.

○   ○   ○   ○   ○   ○   ○

I am very comfortable being close to romantic partners.

○   ○   ○   ○   ○   ○   ○

I don't feel comfortable opening up to romantic partners.

○   ○   ○   ○   ○   ○   ○

I prefer not to be too close to romantic partners.

○   ○   ○   ○   ○   ○   ○

I get uncomfortable when a romantic partner wants to be very close.

○   ○   ○   ○   ○   ○   ○

I find it relatively easy to get close to my partner.

○   ○   ○   ○   ○   ○   ○

It's not difficult for me to get close to my partner.

○   ○   ○   ○   ○   ○   ○

I usually discuss my problems and concerns with my partner.

○   ○   ○   ○   ○   ○   ○

It helps to turn to my romantic partner in times of need.	○	○	○	○	○	○	○
I tell my partner just about everything.	○	○	○	○	○	○	○
I talk things over with my partner.	○	○	○	○	○	○	○
I am nervous when partners get too close to me.	○	○	○	○	○	○	○
I feel comfortable depending on romantic partners.	○	○	○	○	○	○	○
I find it easy to depend on romantic partners.	○	○	○	○	○	○	○
It's easy for me to be affectionate with my partner.	○	○	○	○	○	○	○
My partner really understands me and my needs.	○	○	○	○	○	○	○

Measure 6. Schutte Self-Report Emotional Intelligence Test (SSEIT; Schutte et al., 1998)

Indicate the extent to which each item applies to you using the following scale:

	1: Strongly Disagree	2: Disagree	3: Neither Disagree Nor Agree	4: Agree	5: Strongly Agree
1. I know when to speak about my personal problems to others.	O	O	O	O	O
2. When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.	O	O	O	O	O
3. I expect that I will do well on most things I try.	O	O	O	O	O
4. Other people find it easy to confide in me.	O	O	O	O	O
5. I find it hard to understand the non-verbal messages of other people.	O	O	O	O	O
6. Some of the major events of my life have led me to re-evaluate what is important and not important.	O	O	O	O	O
7. When my mood changes, I see new possibilities.	O	O	O	O	O
8. Emotions are one of the things that make my life worth living.	O	O	O	O	O

9. I am aware of my emotions as I experience them. ○ ○ ○ ○ ○

10. I expect good things to happen. ○ ○ ○ ○ ○

11. I like to share my emotions with others. ○ ○ ○ ○ ○

12. When I experience a positive emotion, I know how to make it last. ○ ○ ○ ○ ○

13. I arrange events others enjoy. ○ ○ ○ ○ ○

14. I seek out activities that make me happy. ○ ○ ○ ○ ○

15. I am aware of the non-verbal messages I send to others. ○ ○ ○ ○ ○

16. I present myself in a way that makes a good impression on others. ○ ○ ○ ○ ○

17. When I am in a positive mood, solving problems is easy for me. ○ ○ ○ ○ ○

18. By looking at their facial expressions, I recognize the emotions people are experiencing. ○ ○ ○ ○ ○

19. I know why my emotions change. ○ ○ ○ ○ ○

20. When I am in a positive mood, I am able to come up with new ideas. ○ ○ ○ ○ ○

21. I have control over my emotions. ○ ○ ○ ○ ○

22. I easily recognize my emotions as I experience them.

○　　　○　　　○　　　○　　　○

23. I motivate myself by imagining a good outcome to tasks I take on.

○　　　○　　　○　　　○　　　○

24. I compliment others when they have done something well.

○　　　○　　　○　　　○　　　○

25. I am aware of the non-verbal messages other people send.

○　　　○　　　○　　　○　　　○

26. When another person tells me about an important event in his or her life, I almost feel as though I have experienced this event myself.

○　　　○　　　○　　　○　　　○

27. When I feel a change in emotions, I tend to come up with new ideas.

○　　　○　　　○　　　○　　　○

28. When I am faced with a challenge, I give up because I believe I will fail.

○　　　○　　　○　　　○　　　○

29. I know what other people are feeling just by looking at them.

○　　　○　　　○　　　○　　　○

30. I help other people feel better when they are down.

○　　　○　　　○　　　○　　　○

31. I use good moods to help myself keep trying in the face of obstacles.

○　　　○　　　○　　　○　　　○

32. I can tell how people are feeling by listening to the tone of their voice.

    ○   ○   ○   ○   ○

33. It is difficult for me to understand why people feel the way they do.

    ○   ○   ○   ○   ○

Measure 7. Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004)

Please select the response that is the most accurate to you.

	Almost Never (0-10%)	Sometimes (11-35%)	About Half the Time (36-65%)	Most of the Time (66-90%)	Almost Always (91-100%)
I am clear about my feelings.	○	○	○	○	○
I pay attention to how I feel.	○	○	○	○	○
I experience my emotions as overwhelming and out of control.	○	○	○	○	○
I have no idea how I am feeling.	○	○	○	○	○
I have difficulty making sense out of my feelings.	○	○	○	○	○
I am attentive to my feelings.	○	○	○	○	○
I know exactly how I am feeling.	○	○	○	○	○
I care about what I am feeling.	○	○	○	○	○
I am confused about how I feel.	○	○	○	○	○
When I'm upset, I acknowledge my emotions.	○	○	○	○	○
When I'm upset, I become angry with myself for feeling that way.	○	○	○	○	○

When I'm upset, I become embarrassed for feeling that way.	○	○	○	○	○
When I'm upset, I have difficulty getting work done.	○	○	○	○	○
When I'm upset, I become out of control.	○	○	○	○	○
When I'm upset, I believe that I will remain that way for a long time.	○	○	○	○	○
When I'm upset, I believe that I'll end up feeling very depressed.	○	○	○	○	○
When I'm upset, I believe that my feelings are valid and important.	○	○	○	○	○
When I'm upset, I have difficulty focusing on other things.	○	○	○	○	○
When I'm upset, I feel out of control..	○	○	○	○	○
When I'm upset, I can still get things done.	○	○	○	○	○
When I'm upset, I feel ashamed with myself for feeling that way.	○	○	○	○	○

When I'm upset, I know that I can find a way to eventually feel better.	○	○	○	○	○
When I'm upset, I feel like I am weak.	○	○	○	○	○
When I'm upset, I feel like I can remain in control of my behaviors.	○	○	○	○	○
When I'm upset, I feel guilty for feeling that way.	○	○	○	○	○
When I'm upset, I have difficulty concentrating.	○	○	○	○	○
When I'm upset, I have difficulty controlling my behaviors.	○	○	○	○	○
When I'm upset, I believe there is nothing I can do to make myself feel better.	○	○	○	○	○
When I'm upset, I become irritated with myself for feeling that way.	○	○	○	○	○
When I'm upset, I start to feel very bad about myself.	○	○	○	○	○
When I'm upset, I believe that wallowing in it is all I can do.	○	○	○	○	○

When I'm upset, I lose control over my behaviors.	○	○	○	○	○
When I'm upset, I have difficulty thinking about anything else.	○	○	○	○	○
When I'm upset, I take time to figure out what I'm really feeling.	○	○	○	○	○
When I'm upset, it takes me a long time to feel better.	○	○	○	○	○
When I'm upset, my emotions feel overwhelming.	○	○	○	○	○

Measure 8. Attentive Responding Scale (ARS; Maniaci & Rogge, 2014)

First half of questions:

In general...	Not at all TRUE	A little TRUE	Some-what TRUE	Mostly TRUE	Very TRUE
I am an active person	○	○	○	○	○
I enjoy the company of my friends	○	○	○	○	○
I don't like getting speeding tickets	○	○	○	○	○
I look forward to my time off	○	○	○	○	○
I find it easy to open up to my friends	○	○	○	○	○
I am a very considerate person	○	○	○	○	○
I enjoy the music of Marlene Sandersfield	○	○	○	○	○
I spend most of my time worrying	○	○	○	○	○
Occasionally people annoy me	○	○	○	○	○
My favorite subject is agronomy	○	○	○	○	○
I am a happy person	○	○	○	○	○
I don't like being ridiculed or humiliated	○	○	○	○	○
I am a very energetic person.	○	○	○	○	○
I am a lively person	○	○	○	○	○
I love going to the DMV (Department of Motor Vehicles)	○	○	○	○	○
It frustrates me when people keep me waiting.	○	○	○	○	○
I enjoy relaxing in my free time	○	○	○	○	○

Second half of questions:

In general...	Not at all TRUE	A little TRUE	Some-what TRUE	Mostly TRUE	Very TRUE
I have an active lifestyle	○	○	○	○	○
I like to spend time with my friends	○	○	○	○	○
I enjoy receiving telemarketers' calls	○	○	○	○	○
It feels good to be appreciated	○	○	○	○	○
It's easy for me to confide in my friends	○	○	○	○	○
I always try to be considerate of other people	○	○	○	○	○
I'd rather be hated than loved	○	○	○	○	○
I worry about things a lot	○	○	○	○	○
Sometimes I find people irritating	○	○	○	○	○
I'd be happy if I won the lottery	○	○	○	○	○
I am usually happy	○	○	○	○	○
My main interests are coin collecting and interpretive dancing	○	○	○	○	○
I have a lot of energy.	○	○	○	○	○
I tend to be pretty lively	○	○	○	○	○
It's annoying when people are late.	○	○	○	○	○
In my time off I like to relax	○	○	○	○	○