

APPLYING THE MENTALIZATION THEORY TO THE DIMENSIONAL TRAIT MODEL  
OF MALADAPTIVE PERSONALITY

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By

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## ABSTRACT

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The mentalization model posits interpersonal difficulties and maladaptive personality traits develop as a result of an insecure attachment pattern with one's caregiver, as well as corresponding deficits in mentalizing (i.e., the ability to understand others' and one's own mental states). This model has been theorized as the basis for Cluster B personality disorders (PDs), and a large body of research has provided evidence supporting associations between insecure attachment, mentalizing, and Cluster B PDs. Nevertheless, developments in the personality field have indicated a dimensional representation of pathological traits is needed, particularly in accordance with the *DSM-5*'s alternative model of PDs. Despite evidence linking the mentalization model to PDs, this model has yet to be applied to dimensional maladaptive personality traits. This study sought to fill this gap and examine links between constructs of the mentalization model and maladaptive personality domains in a sample of 338 undergraduates. Five maladaptive personality domains were examined as dependent variables; attachment dependence, attachment avoidance, and overall mentalizing ability were entered as independent variables; and interaction terms between mentalizing and each attachment dimension were explored as moderators. Results indicated overall mentalizing moderated the relation between attachment avoidance and Negative Affectivity. Additionally, posthoc analyses revealed moderating effects of overall mentalizing on the relations between attachment avoidance and the Emotional Lability, Hostility, and Perseveration trait facets. These results support the mentalization model's application to the alternative

model of PDs, particularly in relation to the links between negative affectivity and Cluster B PDs, and encourage future research into dimensional personality.

KEY WORDS: Attachment, Mentalizing, Mentalization model, Personality disorders

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## CHAPTER I

### Introduction

#### The Mentalization Model

The mentalization model states that attachment (i.e., the internal working model one forms of themselves and others based on early caregiving experiences) and mentalizing (i.e., understanding others' and one's own behavior as driven by underlying mental states) are key aspects in the development of interpersonal difficulties, maladaptive personality structures, and a range of negative psychopathological outcomes (Fonagy, Steele, Steele, Moran, & Higgitt, 1991; Fonagy, Target, Gergely, Allen, & Bateman, 2003; Fonagy & Luyten, 2009; Badoud et al., 2018) in addition to potential genetic predispositions (Crowell, Beauchaine, & Linehan, 2009). Indeed, the theory postulates that disruptions in the attachment system, such as parental absence or child maltreatment, stall, or altogether prevent, the development of accurate mentalizing abilities due to a lack of appropriate emotional mirroring by the parent (i.e., mind-mindedness; Sharp & Fonagy, 2008; Fonagy & Luyten, 2009). Additionally, the stacking of these disruptions ultimately prevents the formation of a coherent structure of the self, resulting in disturbed identity formation, mentalizing, and interpersonal functioning (Fonagy & Luyten, 2009).

The literature on the mentalization model largely supports this theory across a range of psychopathological disorders (e.g., eating disorders, substance use; Kelton-Locke, 2016; Kuipers, van Loenhout, van der Ark, & Bekker, 2016; Lana et al., 2016), though the model is most often associated with the development of pathological personality structures (Fonagy & Luyten, 2009). Indeed, the model is particularly linked

with the Cluster B personality disorders (Fonagy, Gergely, Jurist, & Target, 2002; Bennett, 2006; Badoud et al., 2018)—any disorders that are dominated by emotional, dramatic, manipulative, and erratic behaviors, and include Antisocial Personality Disorder (ASPD), Narcissistic Personality Disorder (NPD), and Borderline Personality Disorder (BPD) *DSM-5* classifications (APA, 2013; Bateman & Fonagy, 2016). Indeed, many of the difficulties and symptoms associated with these disorders are also reflected within the mentalization model, such as interpersonal difficulties, disruptions in attachment, and an unstable sense of self (Fonagy & Luyten, 2009; APA, 2013; Bateman & Fonagy, 2016).

Interestingly, Bateman and Fonagy (2013, 2016) argued that individuals with these personality disorders can present differently from one another when examining their behaviors from a mentalization standpoint. For instance, individuals with NPD tend to have a greater self-focus and decreased sense of others, while those with ASPD exhibit a reduced understanding of the self and better grasp on interpreting others (Bateman & Fonagy, 2013, 2016). Additionally, individuals with BPD often fluctuate in their mentalizing capabilities, such that they are able to accurately mentalize in certain situations, but hypermentalize, or over-attribute mental states, in others (i.e., “loss of mentalizing;” Bateman & Fonagy, 2013; Sharp et al., 2013). Despite these differences, however, these mentalizing deficits are believed to occur in accordance with activation of the attachment system, such as during interpersonal interactions, resulting in increased vulnerabilities to emotional state changes and impulsive behaviors among individuals with BPD, a concentration on one’s own mental states among those with NPD, and a focus on manipulating others among individuals with ASPD (Bateman and Fonagy,

2013).

Additional support for the link between personality disorders and the mentalization model has been provided by clinical applications of this model. Indeed, there is a great deal of evidence to support psychotherapies focusing on the development of mentalizing skills in the context of personality disorders, such that these skills are fostered within an interpersonal, attachment-driven context (Bateman & Fonagy, 2016). For instance, Bateman and Fonagy's (2016) Mentalization-Based Treatment (MBT) is a well-validated therapy modality for individuals in outpatient or inpatient settings, and it consists of alternating group and individual therapy sessions (Bateman & Fonagy, 2016). The treatment primarily focuses on identifying the mental states of the client and others (Bateman & Fonagy, 2016).

Notably, MBT has demonstrated utility in reducing common symptoms of BPD, such as impulsivity, suicidality, self-harm, and depression in both inpatient and outpatient settings (Bateman & Fonagy, 2008, 2013, 2016). Additionally, studies have supported the use of MBT in both ASPD (Bateman & Fonagy, 2016; Newbury-Helps, Feigenbaum, & Fonagy, 2017) and NPD populations (Diamond et al., 2014) as well. Interestingly, connections between the development of mentalizing skills and improved neurocognitive functioning have been found among individuals after 6 months of MBT, such that treated individuals had significant increases in their emotion regulation and interpersonal functioning post-treatment, in conjunction with increased auditory-verbal working memory and perceptual reasoning skills, respectively (Thomsen, Ruocco, Uliaszek, Mathiesen, & Simonsen, 2017). This research suggests that the Cluster B disorders share a common etiological basis that is rooted within the attachment-mentalization paradigm.

Given these highlighted commonalities, the broad aim of this study was to examine the mentalization model's relation to underlying personality structures, rather than discrete disorders.

### **Dimensional Understanding of Personality**

A plethora of recent research has indicated that personality is dimensionally structured according to a variety of domains and traits, rather than distinct categories (see McCrae & Costa, 2008, for a review), necessitating analysis of the aforementioned mentalization model, and its constructs (i.e., attachment and mentalizing) in the context of dimensional traits. The most notable and well-tested theory of dimensional personality is the Five Factor Model (FFM; McCrae & John, 1992; McCrae & Costa, 2008). The FFM postulates that there are five dimensions on which normative personality is expressed: extraversion, agreeableness, openness to experience, conscientiousness, and neuroticism, with several trait facets underlying each dimension (e.g., McCrae & Costa, 2008). This model was constructed via factor analysis and has been consistently supported and validated by a number of studies (McCrae & Costa, 1987; McCrae, 1991; see Costa & John, 1992, for a review). Additionally, research has supported the stability of these traits within individuals across the lifespan (McCrae & Costa, 1990).

Interestingly, theorists have long proposed a similar model of pathological, or maladaptive, personality traits (Widiger & Trull, 1992; Harkness & McNulty, 1994; Costa & Widiger, 2002), and the literature has recently seen a corresponding shift toward a dimensional view of personality disorders (Oldham, 2015; Wright & Simms, 2015). Indeed, the most recent edition of the *DSM*, the *DSM-5*, originally intended to replace the categorical classification of personality disorders (e.g., BPD versus ASPD) with this new

dimensional model, such that a committee of leading personality researchers was developed over a decade prior to the *DSM-5*'s publication, and multiple conferences were conducted to formulate the manual's transition to a dimensional model (Oldham, 2015). Nevertheless, unanimous committee support did not exist for such a change, and an alternative hybrid model was subsequently placed in the "emerging measures and models" section of the manual to encourage further research and introduce clinicians to this new model (APA 2013; Oldham, 2015). Still, there has been much debate regarding the lack of transition to the alternative hybrid model, due to the field's overwhelming support for a dimensional or hybrid classification system of personality disorders (Bernstein, Iscan, & Maser, 2007; Morey, Skodol, & Oldham, 2014; Porter & Rislser, 2014; Oldham, 2015), as well as the large body of evidence demonstrating its similar or improved performance upon the categorical diagnostic methods (Samuel, Hopwood, Krueger, Thomas, & Ruggero, 2013; Morey et al., 2014; Suzuki, Samuel, Pahlen, & Krueger, 2015; Wright & Simms, 2015).

The alternative hybrid model defines personality disorders through two primary criteria: 1) a moderate or greater level of impairment in personality functioning, and 2) the presence of pathological personality traits (APA 2013; Morey, Bender, & Skodol, 2013; Oldham, 2015; Bagby & Widiger, 2018). Notably, this model defines personality functioning through both self- and interpersonal-functioning, each of which is evaluated on two continuums. For instance, self-functioning involves identity and self-direction, while interpersonal-functioning incorporates empathy and intimacy (APA, 2013). Additionally, the model proposes that the second criterion's "pathological traits" consist of 25 facets organized into one of five domains: negative affectivity, antagonism,

detachment, disinhibition, and psychoticism (see Table 1 for trait-domain organization and descriptions; Krueger, Derringer, Markon, Watson, & Skodol, 2011; Gore, 2013; Oldham, 2015). For instance, a diagnosis of BPD using the alternative hybrid model would require impairments in two or more areas of functioning, as well as demonstration of four or more maladaptive traits that are anomalous to BPD (i.e., emotional lability, anxiousness, separation security, depressivity, impulsivity, risk taking, and hostility; APA, 2013).

Table 1

*DSM-5 Dimensional 25-Trait Facet Model<sup>a</sup>*

<u>Alternative Model Domain (Associated FFM Domain)</u>	<u>Brief Description</u>	<u>Pathological Trait Facets</u>
Negative Affectivity (Neuroticism)	Wide range of negative emotions and associated behavioral manifestations experienced frequently, intensely, and at high levels	1. Anxiousness 2. Emotional Lability 3. Hostility 4. Perseveration 5. (Lack of) restricted affectivity 6. Separation insecurity 7. Submissiveness
Detachment (Extraversion)	Limited capacity for pleasure, avoidance of socioemotional experience, and withdrawal from others	8. Anhedonia 9. Depressivity 10. Intimacy avoidance 11. Suspiciousness 12. Withdrawal
Antagonism (Agreeableness)	Behaviors that put one at odds with others, such as high self-importance, and callous antipathy	13. Attention seeking 14. Callousness 15. Deceitfulness 16. Grandiosity 17. Manipulativeness

(continued)

<u>Alternative Model Domain (Associated FFM Domain)</u>	<u>Brief Description</u>	<u>Pathological Trait Facets</u>
Disinhibition (Conscientiousness)	Impulsive behaviors driven by need for immediate gratification and without regard for consequences	18. Distractibility 19. Impulsivity 20. Irresponsibility 21. (Lack of) rigid perfectionism 22. Risk taking
Psychoticism (Openness to Experience <sup>b</sup> )	Odd, eccentric, or unusual behaviors/cognitions	23.. Eccentricity 24. Perceptual dysregulation 25. Unusual beliefs/experiences

*Note.* <sup>a</sup>Krueger et al. (2011); APA (2013); Gore (2013)  
<sup>b</sup>Mixed findings regarding this link

Overall, research has demonstrated strong overlap in these trait facets and domains when comparing the alternative maladaptive model and dimensional models of non-pathological personality, suggesting they correspondingly represent the maladaptive variants of normative personality structure (Saulsman & Page, 2004; Samuel & Widiger, 2008; Gore, 2013; Suzuki et al., 2015; Wright & Simms, 2015). Notably, although there have been some null findings when examining the link between psychoticism and openness to experience (Costa & McCrae, 1992; Suzuki et al., 2015), other studies have found that psychoticism adequately maps onto openness to experience when semi-structured interviews or particular personality measures (e.g., the 5-Dimension Personality Test; 5DPT) are utilized (Haigler & Widiger, 2001; Samuel & Widiger, 2008; van Kampen, 2012; Gore, 2013; Suzuki et al., 2015).

The existing literature has thus far not explored the application of the mentalization theory to the dimensional model of maladaptive traits; this is an important

endeavor for several reasons. First, results consistent with our hypotheses would provide additional evidence for a dimensional understanding of pathological personality within the context of a well-researched etiological theory. In particular, this evidence would support the literature's recent shift toward a dimensional view of personality disorders, as well as the clinical psychology field's push to incorporate this model into the *DSM-5* and *International Classification of Disease, 11<sup>th</sup> edition* (ICD-11; Oltmanns & Widiger, 2017). Second, understanding how attachment and mentalizing relate to maladaptive personality traits in general can help identify individuals whose caregiving environment may place them at higher risk of developing these traits. Third, linking these constructs to maladaptive traits in general may support early intervention utilizing, for instance, MBT, for a wider client audience (Bateman & Fonagy, 2016). In the sections that follow, we expand upon the constructs of the mentalization model—insecure attachment and anomalous mentalization; review extant literature linking these constructs to traditional, discrete personality disorders; and when available, discuss relations between these constructs and dimensional personality traits with the aim of identifying the literature gaps the study intended to fill.

### **Attachment**

Attachment is defined as the internal working model one forms of themselves and others based on early caregiving experiences, which, in turn, guides future beliefs and interactions with others (Bowlby, 1982; Levy, 2005; Rholes, Simpson, Tran, Martin, & Friedman, 2007). A secure attachment style is based in caregiving experiences that provided a secure base for the child to feel comfortable to explore the surrounding environment, knowing the parent can provide support if needed (Main & Cassidy, 1988).

Conversely, an insecure attachment style is associated with unreliable, frightening, or frightened caregiver behavior. Maternal attachment has been the most thoroughly researched form of attachment security, and a secure attachment style with one's maternal caregiver is predictive of a variety of long-term positive outcomes including increased emotion regulation (Kim, Sharp, & Carbone, 2014; Monti & Rudolph, 2014), reduced psychopathology (Marganska, Gallagher, & Miranda, 2013; Venta, Mellick, Schatte, & Sharp, 2014), and response to treatment (Taylor, Rietzschel, Danquah, & Berry, 2014). Notably, attachment is also theorized to extend into adult, romantic relationships, such that attachment style to one's caregiver is predictive of, and often consistent with, attachment style to one's romantic partner (Booth-LaForce et al., 2014) and peers (Bartholomew & Horowitz, 1991). Nevertheless, the dyadic nature of such relationships may also influence the attachment style one has with a romantic partner or peer (Hazan & Shaver, 1987).

Prior research indicates that, cross-culturally, secure attachments are typically present in approximately 55-66% of mother-child relationships (van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999; Shmueli-Goetz, Target, Fonagy, & Datta, 2008; Bakermans-Kranenburg & van Ijzendoorn, 2009), and that these attachment styles often remain stable throughout the lifespan (Dinero, Congo, Shaver, Widaman, & Larsen-Rife, 2008; Zayas, Mischel, Shoda, & Aber, 2011). Insecure attachments constitute the remaining percentage of relationships, and, when examining attachment within adolescents and adults, are often organized along two dimensions: dependence and avoidance (Bowlby, 1982; Bartholomew & Horowitz, 1991). Dependence reflects the degree to which one feels worthy of love by others, and is therefore dependent upon

others' evaluations (Bartholomew & Horowitz, 1991). For instance, an individual low on dependence has positive self-regard without the need for validation from external sources, while an individual high on dependence needs ongoing acceptance and positive evaluations from others to maintain this positive self-regard (Bartholomew & Horowitz, 1991). Conversely, the avoidance dimension describes one's assessment and expectations of others, such that low avoidance behaviors are characterized by comfortability with intimacy while high avoidance behaviors are marked by avoiding close contact with others (Bartholomew & Horowitz, 1991).

Based on a categorical view (i.e., high vs. low) of the dependence and avoidance dimensions, Bartholomew & Horowitz (1991) theorized that secure attachments were marked by low dependence and avoidance, such that a securely attached individual has a simultaneous sense of autonomy and comfort in interacting with others. Additionally, three subtypes of insecure attachment were proposed: dismissing, preoccupied, and fearful (Bartholomew & Horowitz, 1991). A dismissing attachment style (also termed dismissive-avoidant in adults and avoidant in young children) is characterized by low dependence and high avoidance of others (Bartholomew & Horowitz, 1991), and dismissing adults are often defined by an overly negative expectation of others to be clingy or dependent (Fraley, Davis, & Shaver, 1998). In contrast, preoccupied attachments (also referred to as anxious in adults and anxious-ambivalent in young children) are high on dependence and low on avoidance (Bartholomew & Horowitz, 1991), such that these individuals often showcase an overabundance of emotionality, as well as an excessively negative view of oneself and overly positive evaluation of others (Fraley et al., 1998). Finally, fearful attachment styles (also termed disorganized in adults

and young children) are characterized by high dependence and avoidance, and this style describes individuals who require positive evaluation from others to establish a positive self-regard, while simultaneously avoiding or rejecting intimacy (Bartholomew & Horowitz, 1991). Indeed, several studies have supported this four-category model of attachment (Griffin & Bartholomew, 1994a; Both & Best, 2017; see Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010, for a review).

### **Attachment and Personality**

Insecure attachment styles have a particularly strong link with personality pathology and have been associated with every *DSM-5* personality disorder (see Levy et al., 2015, for a review; Wiltgen et al., 2015). In general, dismissing styles are associated with paranoid, schizoid, schizotypal, antisocial, and obsessive-compulsive personality disorder, while preoccupied attachments are often related to histrionic, dependent, and avoidant personality disorder (Levy, 2005; Levy et al., 2015; Wiltgen et al., 2015). Additionally, narcissistic personality disorder has been associated with both of these styles, suggesting an unstable attachment representation in these individuals (Diamond et al., 2014). Nevertheless, research in this field has, in particular, examined the link between insecure attachment patterns and BPD (Fonagy et al., 1996; Deborde et al., 2012; Schuppert, Albers, Minderaa, Emmelkamp, & Nauta, 2015). Indeed, among adult patients with BPD, secure attachments are much less common than in non-clinical samples (0-30%; Agrawal, Gunderson, Henderson, & Lyons-Ruth, 2004). For instance, one meta-analysis (Agrawal et al., 2004) found that the overwhelming majority of adult patients with BPD had insecure attachment styles. As such, the association between BPD and insecure attachment is particularly well-supported and validated by the literature.

Bartholomew and Horowitz's (1991) model of attachment has also been linked with the Five-Factor Model of personality. For instance, the dependence and avoidance dimensions have demonstrated positive associations with neuroticism and negative associations with extraversion, agreeableness, and openness to experience (Griffin & Bartholomew, 1994b; Bäckstrom & Holmes, 2001), such that individuals falling into the more secure ranges of the attachment dimensions are less neurotic, and more extraverted, agreeable, and open. The dependence dimension has also been associated with conscientiousness, in which individuals classified as less dependent are often more conscientious (Griffin & Bartholomew, 1994b; White, Hendrick, & Hendrick, 2004). However, these findings are often mixed (Bäckstrom & Holmes, 2001; Picardi, Caroppo, Toni, Bitetti, & Di Maria, 2005).

Differences in FFM personality have also been demonstrated between attachment styles (Shaver & Brennan, 1992; Griffin & Bartholomew, 1994b; Carver, 1997; Bäckstrom & Holmes, 2001; White et al., 2004; Picardi et al., 2005; see Nofhle & Shaver, 2006, for a review). Indeed, a seminal study by Shaver and Brennan (1992) found several significant differences between the secure, avoidant, and anxious (preoccupied) attachment styles. For instance, individuals with secure attachment patterns were higher on extraversion, lower on neuroticism, and higher on agreeableness than both avoidant and anxious individuals (Shaver & Brennan, 1992). Although there were no significant differences found between styles for the conscientiousness and openness to experience domains, one trait facet of the latter domain, openness to feelings, was significantly lower among avoidant individuals than either the secure or anxious groups (Shaver & Brennan, 1992). Additionally, another study supported a similar pattern for the fearful attachment

style, such that individuals within this category are more neurotic, disagreeable, and introverted (Both & Best, 2017). Finally, Fossati and colleagues (2015) found that conscientiousness and openness to experience were negatively correlated with need for approval from others, a construct in line with the aforementioned dependence dimension.

Lastly, adult attachment has been linked with the *DSM-5*'s alternative model of personality disorders, though only one study to this author's knowledge has explored these relations (Fossati et al., 2015.) In the study, Fossati and colleagues (2015) utilized the Attachment Styles Questionnaire (ASQ), a dimensional measure of attachment with five subscales (i.e., discomfort with closeness, need for approval, preoccupation with relations, viewing relationships as secondary, and lack of confidence) that overlap with Bartholomew and Horowitz's (1991) dependence and avoidance model of attachment (Feeney, Noller, & Hanrahan, 1994; Ravitz et al., 2010). Interestingly, the researchers found that, among a nonclinical sample of Italian adults, the ASQ scales predicted the five maladaptive personality domains, as well as 24 of the 25 maladaptive traits (Fossati et al., 2015), demonstrating a tentative connection between the alternative model of personality disorders with the dependence and avoidance attachment domains, and their associated attachment styles. Nevertheless, the literature body currently lacks any further exploration of these relations, and, as such, replication of these findings and additional evidence extending the results are needed.

### **Mentalizing**

According to Bateman and Fonagy (2013), mentalizing is the ability to understand one's own behavior, and the behavior of others, as guided by underlying mental states. Mentalizing is a form of social cognition, and it is often organized across four

dimensions: automatic/controlled (also referred to as implicit/explicit), cognitive/affective, internal/external-based, and self/other focused (Fonagy & Luyten, 2009). Notably, the term mentalizing is frequently used interchangeably with a number of other constructs that also fall along these dimensions. For instance, theory of mind typically describes the cognitive aspects of understanding others, such as the comprehension that others' minds are separate from the self's (ToM; Górska & Marszal, 2014; Wyl, 2014). Additionally, reflective functioning refers to one's ability to reflect back on these mental states and use this past understanding to inform current interactions (Humfress, O'Connor, Slaughter, Target, & Fonagy, 2002; Benbassat & Priel, 2012). Nevertheless, each term describes a similar developmental metacognitive process related to the ability (or inability) to understand and attribute mental processes to others and the self (Benbassat & Priel, 2012).

Mentalizing is an important tool in appropriate social interactions, such that accurate mentalizing is related to a number of positive outcomes, including improved social maturity and skills (Dunn & Cutting, 2001; Carpendale & Lewis, 2004; Caputi, Lecce, Pagnin, & Banerjee, 2012), and fewer social problems (Venta & Sharp, 2015). In contrast, mentalizing errors are often associated with a number of negative outcomes, such as poor social relationships (Bateman & Fonagy, 2008; Vissers & Koolen, 2016). Additionally, mentalizing errors have been consistently linked with psychopathology, such that an impaired or anomalous mentalizing ability is a transdiagnostic clinical marker for over 30 mental health diagnoses (Cotter et al., 2018). These diagnoses include depression (Fischer-Kern et al., 2013; Mattern et al., 2015), social anxiety (Washburn, Wilson, Roes, Rnic, & Harkness, 2016), autism (Dziobek et al., 2006), attention-

deficit/hyperactivity disorder (ADHD; Perroud et al., 2017), and psychosis (Langdon & Brock, 2008; Hart, Venta, & Sharp, 2017). Notably, however, a plethora of studies have also indicated a wide range of mentalizing abilities within non-clinical samples (Kinderman, Dunbar, & Bentall, 1998; Apperley, Warren, Andrews, Grant, & Todd, 2011; Vonk & Pitzen, 2017).

### **Mentalizing and Personality**

Personality pathology has also been linked with mentalizing errors. More specifically, deficits in mentalizing have been associated with a number of personality disorders, including antisocial (see Bateman, Bolton, & Fonagy, 2013, for a review; Newbury-Helps et al., 2017), schizotypal (Meyer & Shean, 2006), narcissistic (Bennett, 2006; Diamond et al., 2014), obsessive-compulsive (Dimaggio et al., 2011), and avoidant personality disorder (Dimaggio et al., 2014). Additionally, Fossati and colleagues (2017) found that type of mentalizing errors vary by disorder, such that antisocial personality disorder was linked with overattribution of mental states to others (i.e., hypermentalizing); avoidant, schizotypal, and histrionic personality disorder were correlated with underattribution (i.e., hypomentalizing); and paranoid personality disorder was linked with overall deficits in mentalizing abilities.

Nevertheless, the personality pathology most frequently linked to mentalizing in extant research is BPD. Indeed, mentalizing has been identified as a translational construct in the conceptualization and treatment of BPD (Sharp & Kalpakci, 2015), and the disorder has been empirically and theoretically connected to a range of mentalizing difficulties (e.g., facial emotion recognition, hypermentalizing) across a number of studies and populations (Preissler, Dziobek, Ritter, Heekeren, & Roepke, 2010; Sharp et

al., 2011, 2016; Daros, Zakzanis, & Ruocco, 2012; Ghiasi, Mohammadi, & Zarrinfar, 2016; see Domes, Schulze, & Herpertz, 2009, or Sharp & Vanwoerden, 2015, for a review). For instance, one study that explored the differences in reflective functioning abilities between adults with BPD and healthy controls indicated the former group had particularly more difficulty in both affective and cognitive theory of mind tasks (Petersen, Brakoulias, & Langdon, 2016). Individuals with BPD also reported more difficulty with empathic reasoning, and their mentalizing errors were observed to coalesce around certain maladaptive attributions, such as black-and-white thinking (Petersen et al., 2016).

Notably, several dimensional personality domains have been linked with mentalizing; however, the research on these connections is quite limited and is typically constrained to FFM domains, rather than the pathological variants. For instance, Nettle and Liddle (2008) found that agreeableness and ToM were positively correlated, while neuroticism was negatively correlated with ToM. Additional research tapping into the relation between agreeableness and mentalizing suggests that it is the compassion, rather than politeness, aspect of agreeableness that drives this relation (Allen, Rueter, Abram, Brown, & Deyoung, 2017). A study conducted by Dimitrijević, Hanak, Dimitrijević, and Marjanović (2017) also yielded positive correlational results between mentalizing and extraversion, conscientiousness, and openness, as well as a negative correlation with neuroticism.

Despite this evidence linking the FFM to mentalizing abilities, only two studies to this author's knowledge have explored relations between mentalizing and the alternative model of personality disorders. In one study, Fossati and colleagues (2017) found several

associations between underlying trait facets and mentalizing abilities. More specifically, emotional lability and risk-taking were linked with hypomentalizing, while hostility, suspiciousness, withdrawal, callousness, deceitfulness, lack of rigid perfectionism, and unusual beliefs and experiences were correlated with hypermentalizing (Fossati et al., 2017). Additionally, da Costa, Vrabel, Zeigler-Hill, and Vonk (2018), found significant, negative correlations between overall mentalizing abilities and negative affectivity (-.12), antagonism (-.40), detachment (-.13), disinhibition (-.30), and psychoticism (-.25). These studies support a link between mentalization and pathological personality traits, though neither of these studies explored the role of attachment in these relations. Indeed, to this author's knowledge, no research has explored the potential application of the full mentalization theory to the alternative model of personality disorders.

### **The Present Study**

Given prior research demonstrating the links between attachment, mentalizing, and personality disorders (Bateman & Fonagy, 2008, 2013; Sharp et al., 2011, 2016; see Dimaggio & Brüne, 2016, for a brief review), the current study sought to explore the applicability of the mentalization model to the dimensional model of maladaptive personality. More specifically, we examined relations between attachment, mentalizing, and their interaction (i.e., such that mentalizing acts as a moderator) when predicting each pathological personality domain proposed by the *DSM-5* (i.e., negative affectivity, antagonism, detachment, disinhibition, and psychoticism; APA, 2013). Indeed, our study sought to extend the findings of Fossati and colleagues (2015, 2017), by both (1) demonstrating the unique links between maladaptive personality, attachment and mentalizing; and, (2) exploring the potential moderating role of mentalizing on the

relation between attachment and the personality domains.

To this end, we hypothesized a model in which:

(H1) the negative affectivity, antagonism, and disinhibition pathological personality domains would be positively associated with attachment insecurity;

(H2) mentalizing ability would be negatively associated with each of these personality domains; and,

(H3) consistent with the mentalization model of BPD, there would be an interaction effect between attachment and mentalizing when predicting domains associated with Cluster B personality disorders (i.e., negative affectivity, antagonism, and disinhibition; APA, 2013).

Notably, given the paucity of research exploring the relation between the mentalizing model and the other domains (i.e., detachment and psychoticism), no specific hypotheses regarding detachment and psychoticism were generated. Additionally, given that the *DSM-5*'s alternative model of personality disorders lists several trait facets of antagonism, disinhibition, and negative affectivity within the new classifications of Cluster B personality disorders (APA, 2013; Calvo et al., 2016), we hypothesized the links between one's attachment and these personality domains would be moderated by mentalizing ability. Specifically, we proposed that individuals with low attachment security (i.e., high dependence or high avoidance) and less accurate mentalizing abilities would be significantly more likely to score higher on these maladaptive domains than those individuals with low attachment security and more accurate mentalizing abilities.

Finally, we conducted subsequent exploratory analyses to unpack findings for models that proved significant by exploring the mentalization theory's application to the

trait facets underlying each significant personality domain. For instance, we hypothesized that, should there be a significant interaction effect on the negative affectivity domain, analyses would be conducted on the seven trait facets underlying this domain (e.g., separation insecurity, anxiousness; APA, 2013). Importantly, these analyses were exploratory in nature as the specific trait facets tested were yet to be determined at the time of hypothesis-generating.

## CHAPTER II

### Methods

#### Participants

This study collected data from undergraduate psychology students via the Sam Houston State University (SHSU) Psychology Experimental Research Participation (PeRP) Research Program. Notably, a priori power analyses utilizing the G\*Power Statistical Analysis tool suggested a minimum sample size of 215 (given the following parameters: effect size  $\geq .15$ ,  $\alpha = .05$ , number of predictors = 3, and number of analyses = 5; Faul, Erdfelder, Lang, & Buchner, 2007; Buchner, 2017). Consent for the study was sought at the time of admission. Inclusion criteria for this study were an age of at least 18 years old and English fluency. A total of 401 data points were obtained in the course of data collection, 372 of whom completed all relevant measures. Of these 372, seven data points were excluded from analyses due to participants taking fewer than 30 minutes to complete the survey, a timeframe identified by the data collectors as substantially shorter than the minimum amount of time to thoroughly watch all presented videos (i.e., 15 minutes or longer) and consider all presented questions (approximately 315). Descriptive statistics supported this cut-off time, as the dataset's median completion time was 76 minutes. Additionally, 26 participants' responses were excluded from the dataset in accordance with validity cut-offs described in the Validity measure section. Finally, given that gender group was used as a covariate in multivariate analyses, and only one participant identified as non-binary, this participant's data was excluded from later analyses. Subsequently, the final subsample consisted of 338 participants.

Participants ranged in age from 18 to 45, with the median age being 18, and most

participants (95.9%;  $n = 324$ ) falling between the ages of 18 and 23. The sample was largely female ( $n = 292$ ; 86.4%) and reported being single and never married ( $n = 321$ ; 95.0%). Regarding race and ethnicity, 150 (44.4%) participants identified as White, 119 (35.1%) as Hispanic or Latino, 54 (16.0%) as Black or African American, eight (2.4%) as Asian, five (1.5%) as American Indian or Alaska Native, and two (0.6%) as Native Hawaiian or Other Pacific Islander. Due to the small number of participants identifying as Asian, American Indian or Alaska Native, or Native Hawaiian or Other Pacific Islander, these racial groups were collapsed into an “other” group ( $n = 15$ , 4.4%).

### **Measures**

**Personality.** The Personality Inventory for *DSM-5* (PID-5) is a 220-item self-report inventory that assesses the 25 pathological personality trait facets and five domains of personality (APA, 2013), and was developed in conjunction with the alternative model of personality established by the APA’s *DSM-5* personality disorder committee. The PID-5 has demonstrated adequate reliability and validity across a number of studies (Krueger et al., 2011; Wright et al., 2012; Al-Dajani, Gralnick, & Bagby, 2014); however, shortened versions (i.e., the PID-5-Short Form and PID-5-Brief Form) of the measure have been developed to reduce the length of completion time and improve its clinical utility. In the present study, we utilized the PID-5-Short Form (PID-5-SF), which was developed by Maples and colleagues (2015) via an item response theory approach and resulted in the retention of 100 items. Similar to the original version, participants rated items on a four-point Likert-type scale from 0 (very false or often false) to 3 (very true or often true). Notably, although the PID-5-SF is not used as widely as the original PID-5, the literature body supports its use in assessing the various traits and domains of

personality (Maples et al., 2015; Thimm, Jordan, & Bach, 2016). For instance, Maples and colleagues (2015) found nearly identical correlational performance when comparing the PID-5 and PID-5-SF within the same sample. Additionally, studies have demonstrated adequate reliability and validity across several different populations (Maples et al., 2015, Thimm et al., 2016; Diaz-Batanero, Ramirez-López, Dominguez-Salas, Fernández-Calderón, & Lozano, 2017). For the present study, all major scales demonstrated good to excellent internal consistency (Negative Affectivity:  $\alpha = .91$ ; Detachment:  $\alpha = .90$ ; Antagonism:  $\alpha = .85$ ; Disinhibition:  $\alpha = .86$ ; Psychoticism:  $\alpha = .86$ ).

Table 2

*Preliminary Analyses amongst Demographic and Key Study Variables. Study*

*Participants (N = 338)*

<u>Scale</u>	<u>Gender (<i>t</i>)</u>	<u>Ethnicity (<i>F</i>)</u>	<u>Age (<i>r</i>)</u>	<u>Mean (SD)</u>
PID-5-SF Negative Affectivity	3.99***	0.29	-.08	1.33 (0.53)
PID-5-SF Detachment	1.17	1.71	-.07	0.76 (0.33)
PID-5-SF Antagonism	-1.47	0.22	-.01	0.64 (0.28)
PID-5-SF Disinhibition	0.85	3.32*	-.10	0.84 (0.43)
PID-5-SF Psychoticism	0.84	1.03	-.10	0.73 (0.40)
RQ Dependence	1.84	2.08	-.05	0.67 (5.08)
RQ Avoidance	1.37	2.29	.02	0.65 (4.40)
MASC Overall	0.17	2.11	.11*	17.40 (10.63)

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note.* PID-5-SF = Personality Inventory for *DSM-5*—Short Form; RQ = Relationship Questionnaire; MASC = Movie for the Assessment of Social Cognition.

**Attachment.** The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) was used to assess participants' attachment security and was adapted from Hazan and Shaver's (1987) Three-Category Measure. It is a forced-choice instrument, such that it provided descriptions of four attachment styles (i.e., secure, dismissing, preoccupied, and fearful) and asked participants to select which description sounded most similar to their own relationships. For example, the secure attachment style had the following description: "It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me." Additionally, the measure asked participants to rate how well each style described them on a Likert-type scale from 1 (disagree strongly) to 7 (agree strongly), and, as such, it can provide dimensional measures of avoidance and dependence (Ravitz et al., 2010). Notably, the RQ was chosen for the current study due to the measure's brevity, its ability to categorically and dimensionally describe attachment, and the empirical support for its reliability and validity among adult and community populations (Bartholomew & Horowitz, 1991) as compared to other adult attachment measures.

**Mentalizing.** The Movie for the Assessment of Social Cognition (MASC) was utilized to measure participants' mentalizing abilities. The MASC is a video-based instrument consisting of a 15-minute long film, which is stopped at 45 points to ask questions about the character's mental states (Dziobek et al., 2006; Sharp et al., 2011, 2016). Each question provided four response choices that represent different levels of mentalizing ability (i.e., no mentalizing, hypomentalizing, accurate mentalizing, and hypermentalizing). For instance, one scene depicts a character, Michael, knocking on

another character, Sandra's, door, and complimenting her new hair style. The film was paused after this interaction, and the following question and responses were posed to participants (associated mentalizing levels provided in brackets): "What is Sandra feeling? A) Her hair does not look that nice [no mentalizing]; B) She is pleased about his compliment [hypomentalizing]; C) She is exasperated about Michael coming on too strong [hypermentalizing]; or D) She is flattered but somewhat taken by surprise [accurate mentalizing]." In relation to the four dimensions of mentalizing, the MASC assesses explicit (also known as controlled), other-focused, and internal-based mentalizing ability, with a balanced concentration on both the cognitive and affective aspects of mentalizing (Fonagy & Luyten, 2009; Dziobek et al., 2006). Participants' responses were summarily scored within each response category (e.g., 24 hypomentalizing, 16 accurate mentalizing, 4 no mentalizing, and 1 hypermentalizing response choices would yield scores of 24, 16, 4, and 1, respectively). An overall mentalizing score was obtained by subtracting the number of errors from the accurate mentalizing total, wherein a higher final score indicated more accurate mentalizing.

Notably, the MASC has demonstrated high reliability and validity among clinical and community populations (Dziobek et al., 2006; Sharp et al., 2011, 2016). Indeed, it is often considered to be the gold standard of social cognition measures due to its objective, rather than self-report, measure of mentalizing abilities (Sharp et al., 2011). Given the link between inaccurate mentalizing and broad Cluster B psychopathology (Bateman et al., 2013; Sharp et al., 2016; Newbury-Helps et al., 2017), the MASC's overall mentalizing scale ( $M = 17.38$ ,  $SD = 10.62$ ) was examined in relation to the pathological personality domains. The internal consistency of the total scale for the current sample

was acceptable ( $\alpha = .74$ ), consistent with prior studies (Dziobek et al., 2006:  $\alpha = .84$ ; Fossati et al, 2015:  $\alpha = .73$ ). Notably, an internal consistency analysis was not conducted for the overall mentalizing scale, due to this scale being a difference score between the accurate mentalizing and errors in mentalizing scale scores. Finally, seven control questions (e.g., “Which chips does Betty have to play?”) were also presented throughout the course of the film to ensure participants were attending to the plot of the film, and all participants answered at least half of these questions correctly.

**Validity.** To ensure the validity of participants’ responses on the personality and attachment measures, control items were added to the administration. A total of eight items was used across the administration and consisted of nonsensical or illogical statements. Response styles corresponded with the measure in which the validity question was included. For instance, given that the PID-5-SF requires participants to answer on a scale from 0 (very false or often false) to 3 (very true or often true), a control item for that measure asked participants to rate the statement, “When I see the color orange, I taste mustard,” on a scale from 0 to 3. Validity items within the attachment measure also reflected that scale’s specific response style. The data for those participants who provided two or more invalid responses were excluded from analysis ( $n = 26$ ), due to most participants having zero or one invalid response.

## **Procedures**

This study was approved by the SHSU institutional review board prior to data collection. It was posted on the PeRP website, such that undergraduate students selected to engage in the study for academic credit. Once selected, the PeRP website launched Qualtrics, an online software program that stores and exports data for research purposes.

Informed consent was obtained prior to data collection, and procedures for the study were as follows: demographic information was first acquired, followed by the PID-5-SF.

Consistent with Sharp and Vanwoerden's (2015) argument that mentalizing errors may be driven by stress within the attachment system, the RQ was presented to participants prior to the MASC (mentalizing measure). Once data collection was completed, the data was exported from Qualtrics, deidentified, and stored on a password-protected USB drive. The USB drive was stored in a locked cabinet in Dr. Amanda Venta's campus lab after data were analyzed.

## CHAPTER III

### Results

#### Preliminary Analyses

Preliminary tests analyzing normality and heteroscedasticity (i.e., histograms, skewness and kurtosis tests, and scatterplots) suggested that three of the PID-5 scales were significantly negatively skewed. As such, square root transformations were conducted on the Detachment, Psychoticism, and Antagonism scales. The Negative Affectivity and Disinhibition scales appeared to be normally distributed, and no issues with heteroscedasticity were identified with these variables. Means and standard deviations of all key study variables are provided in Table 2.

Demographic data were analyzed via *t*-tests, one-way ANOVAs, and correlational analyses to determine if there were any relations between gender, ethnicity, and age with key study variables (i.e., personality, attachment, and mentalizing; see Table 2). An independent samples *t*-test exploring the relation between gender and the PID-5-SR Negative Affectivity scale,  $t(335) = 3.99, p < .001$ , proved significant, suggesting female participants endorsed significantly more items relating to negative affect, such as feelings of anxiousness or greater emotional lability. Additionally, a one-way ANOVA indicated ethnicity significantly predicted PID-5 Disinhibition scores,  $F(3, 334) = 3.32, p = .02$ . Posthoc comparisons using the Tukey HSD test indicated that the mean score for Hispanic participants on the Disinhibition domain ( $M = 0.92, SD = 0.45$ ) was significantly higher than that of the mean score for White participants ( $M = 0.77, SD = 0.40$ ); however, no other posthoc differences were found. Finally, age and participants' overall mentalizing scores were positively correlated,  $r(338) = .11, p = .04.$ , such that

older participants had higher mentalizing abilities. Given the results of these demographic analyses, all demographic variables were included as covariates in later analyses.

### **Multivariate Analyses**

Multivariate Analyses of Covariance (MANCOVAs) were utilized to test our hypotheses, due to this method's parsimonious ability to analyze main and interaction effects on multiple dependent variables while simultaneously controlling for covariates and family-wise error. Indeed, this statistical analysis allowed us to explore the main effects proposed in our first and second hypotheses, which stated that the Negative Affectivity, Antagonism, and Disinhibition personality domains would be positively associated with attachment insecurity (continuous) and negatively associated with mentalizing ability (continuous). No specific hypotheses were generated as to the Detachment and Psychoticism domains. Additionally, using MANCOVAs allowed us to explore our third hypothesis: that overall mentalizing would act as a moderator of the relation between attachment and each personality domain. Specifically, we expected the moderation to be significant only when overall mentalizing and attachment insecurity were high. Two MANCOVAs were subsequently conducted, one for each attachment dimension (i.e., dependence and avoidance). Each analysis included all five personality domains as dependent variables; the relevant attachment variable (dependence or avoidance), overall mentalizing, and the interaction term (attachment dimension X overall mentalizing) as independent variables; and age, ethnicity, and gender as covariates.

Upon examining the multivariate results of the attachment dependence MANCOVA, there was evidence of a significant main effect of attachment dependence

on personality,  $F(5, 325) = 5.85, p < .001$ , Wilks'  $\Lambda = .92$  (see Table 3). Additionally, when exploring these analyses at the univariate level, dependence was associated with all five domains, most notable being the Negative Affectivity domain,  $F(1,329) = 23.88, p < .001, \eta^2 = .07$  (see Table 4). However, there were no significant multivariate main effects of overall mentalizing  $F(5, 325) = 1.53, p = .18$ , Wilks'  $\Lambda = .98$ , nor was the interaction between attachment dependence and overall mentalizing on maladaptive personality significant,  $F(5, 325) = 0.75, p = .59$ , Wilks'  $\Lambda = .99$ .

Table 3

*MANCOVA results of Attachment Dependence and Overall Mentalizing on the PID-5-SF Personality Domains*

	Wilk's $\Lambda$	$F$	df	$p$	$\eta^2$
Intercept	.74	22.63***	5, 325	< .001	.26
Gender	.94	4.09**	5, 325	.001	.06
Ethnicity	.92	1.88*	15, 898	.02	.08
Age	.99	1.01	5, 325	.41	.01
RQ Dependence	.92	5.85***	5, 325	< .001	.08
MASC	.98	1.53	5, 325	.18	.02
RQ x MASC	.99	0.75	5, 325	.59	.01

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note.* PID-5-SF = Personality Inventory for *DSM-5*—Short Form; RQ = Relationship Questionnaire; MASC = Movie for the Assessment of Social Cognition.

Table 4

*Univariate MANCOVA results of Attachment Dependence on the PID-5-SF Personality*

*Domains*

	<i>F</i>	df	<i>p</i>	$\eta^2$
Negative Affectivity	23.88***	1, 329	< .001	.07
Detachment	15.12***	1, 329	< .001	.04
Antagonism	4.46*	1, 329	.04	.01
Disinhibition	7.36*	1, 329	.01	.02
Psychoticism	7.61***	1, 329	< .001	.02

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note.* PID-5-SF = Personality Inventory for *DSM-5*—Short Form; RQ = Relationship Questionnaire; MASC = Movie for the Assessment of Social Cognition.

In the second model, neither attachment avoidance,  $F(5, 325) = 1.58, p = .17$ , Wilks'  $\Lambda = .98$ , nor overall mentalizing,  $F(5, 325) = 1.82, p = .11$ , Wilks'  $\Lambda = .97$ , had a significant main effect on personality. However, a significant moderating effect by overall mentalizing was observed at the multivariate level,  $F(5, 325) = 3.21, p = .01$ , Wilks'  $\Lambda = .95$  (see Table 5). Indeed, when examining the univariate analyses, a significant moderation of the Negative Affectivity domain was present,  $F(1, 329) = 3.99, p = .04, \eta^2 = .07$ . A scatterplot of this domain's predicted values against attachment avoidance at different levels of mentalizing ability (i.e., one standard deviation below, at, and one standard deviation above the mean) indicated that participants who scored low on overall mentalizing and high on attachment avoidance also rated themselves as experiencing more negative affect (see Figure 1). No moderating effects were observed

for the Detachment, Antagonism, Disinhibition, or Psychoticism domains in relation to attachment avoidance (see Table 6).

Table 5

*MANCOVA results of Attachment Avoidance and Overall Mentalizing on the PID-5-SF*

*Personality Domains*

	Wilk's $\Lambda$	$F$	df	$p$	$\eta^2$
Intercept	.77	18.97***	5, 325	< .001	.77
Gender	.91	6.44***	5, 325	< .001	.09
Ethnicity	.92	1.79*	15, 898	.03	.08
Age	.98	1.32	5, 325	.26	.02
RQ Avoidance	.98	1.58	5, 325	.17	.02
MASC	.97	1.82	5, 325	.11	.03
RQ x MASC	.95	3.21*	5, 325	.01	.05

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note.* PID-5-SF = Personality Inventory for DSM-5—Short Form; RQ = Relationship Questionnaire; MASC = Movie for the Assessment of Social Cognition.

Table 6

*Univariate MANCOVA results of the moderating effects of Overall Mentalizing on the*

*PID-5-SF Personality Domains*

	$F$	df	$p$	$\eta^2$
Negative Affectivity	3.99*	1, 329	.04	.01
Detachment	2.31	1, 329	.13	.01
Antagonism	0.45	1, 329	.50	.00

(continued)

	<i>F</i>	df	<i>p</i>	$\eta^2$
Disinhibition	1.76	1, 329	.19	.01
Psychoticism	0.41	1, 329	.52	.00

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Note. PID-5-SF = Personality Inventory for *DSM-5*—Short Form; RQ = Relationship Questionnaire; MASC = Movie for the Assessment of Social Cognition.

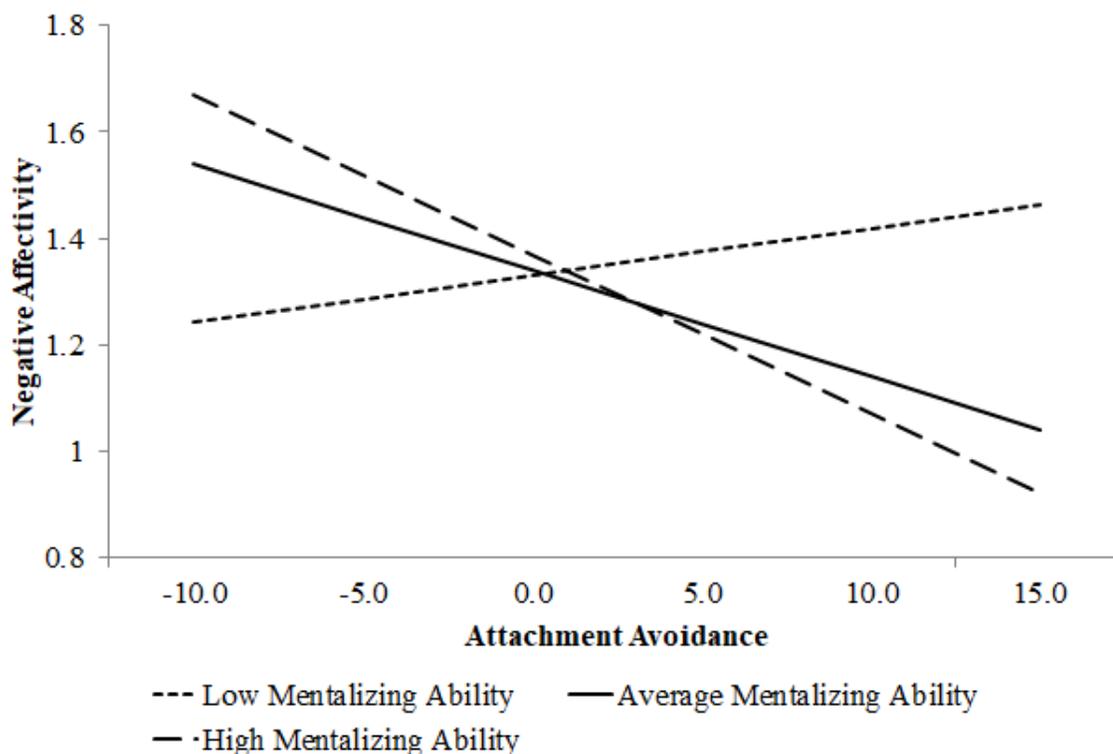


Figure 1. Simple slopes of attachment avoidance predicting negative affectivity for one *SD* below the mean of mentalizing ability, and one *SD* above the mean of mentalizing ability.

### Posthoc Analyses

Consistent with our proposed aims to explore the maladaptive personality model in greater depth, and our third hypothesis being supported in relation to the Negative Affectivity domain, posthoc analyses were conducted for the seven trait facets underlying

this domain. More specifically, we explored each trait facet (i.e., Anxiousness, Emotional Lability, Hostility, Perseveration, Lack of Restricted Affectivity, Separation Insecurity, and Submissiveness) as a dependent variable in relation to attachment avoidance and overall mentalizing. Attachment avoidance, overall mentalizing, and their interaction were therefore maintained as independent variables, while age, ethnicity, and gender remained as covariates. Notably, these trait facets' relations to attachment dependence were not explored, given the lack of statistically significant findings between this attachment dimension and Negative Affectivity.

Importantly, the trait facets were examined for potential violations of normality and homoscedasticity via histograms, scatterplots, and skewness and kurtosis values prior to multivariate analyses being conducted. The Emotional Stability and Hostility subscales appeared to be significantly negatively skewed and were subsequently transformed using the square root function, while the Lack of Restricted Affectivity subscale was positively skewed and transformed by squaring the variable. No other issues with normality or heteroscedasticity were identified with the remaining trait facets.

Results demonstrated a significant multivariate main effect of attachment avoidance,  $F(7, 323) = 4.07, p < .001$ , Wilks'  $\Lambda = .92$ . Indeed, when examining the results of the univariate analyses, attachment avoidance appeared to have significant main effects on both the Hostility,  $F(1,329) = 8.61, p < .01, \eta^2 = .03$ , and Lack of Restricted Affectivity,  $F(1,329) = 12.82, p < .001, \eta^2 = .04$ , subscales. However, no such effect was observed with overall mentalizing,  $F(7, 323) = 1.04, p = .40$ , Wilks'  $\Lambda = .98$ . Interaction effects proved to be significant at both the multivariate level,  $F(7, 323) = 2.70, p = .01$ , Wilks'  $\Lambda = .95$  (see Table 7), as well as with three of the trait facets analyzed. More

specifically, overall mentalizing had a moderating effect on the relations between attachment avoidance and the Emotional Lability,  $F(1,329) = 3.66, p = .04, \eta^2 = .01$ , Hostility  $F(1,329) = 4.83, p = .03, \eta^2 = .01$ , and Perseveration  $F(1,329) = 4.65, p = .03, \eta^2 = .01$ , subscales (see Table 8), such that those participants who reported lower mentalizing ability and higher attachment insecurity also endorsed experiencing more negative affect in these domains. No interaction effects were observed for the Anxiousness, Lack of Restricted Affectivity, Separation Insecurity, and Submissiveness subscales (see Table 8).

Table 7

*MANCOVA results of Attachment Avoidance and Overall Mentalizing on the PID-5-SF Negative Affectivity Trait Facets*

	Wilk's $\Lambda$	$F$	df	$p$	$\eta^2$
Intercept	.77	13.62***	7, 323	< .001	.23
Gender	.84	8.51**	7, 323	< .001	.16
Ethnicity	.94	1.00	21, 928	.47	.06
Age	.93	3.52**	7, 323	.001	.07
RQ Avoidance	.92	4.07***	7, 323	< .001	.08
MASC	.98	1.04	7, 323	.40	.02
RQ x MASC	.95	2.70*	7, 323	.01	.05

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note.* PID-5-SF = Personality Inventory for *DSM-5*—Short Form; RQ = Relationship Questionnaire; MASC = Movie for the Assessment of Social Cognition.

Table 8

*Univariate MANCOVA results of the moderating effects of Overall Mentalizing on the PID-5-SF Negative Affectivity Trait Facets*

	<i>F</i>	df	<i>p</i>	$\eta^2$
Anxiousness	0.89	1, 329	.35	.00
Emotional Lability	3.66*	1, 329	.05	.01
Hostility	4.83*	1, 329	.03	.01
Perseveration	4.65*	1, 329	.03	.01
(Lack of) Restricted Affectivity	1.38	1, 329	.24	.00
Separation Insecurity	.39	1, 329	.53	.00
Submissiveness	.21	1, 329	.65	.00

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note.* PID-5-SF = Personality Inventory for *DSM-5*—Short Form; RQ = Relationship Questionnaire; MASC = Movie for the Assessment of Social Cognition.

## CHAPTER IV

### Discussion

The present study aimed to demonstrate the unique links between pathological personality domains, attachment, and mentalizing, as well as to explore mentalizing ability as a potential moderator of the relation between attachment and the maladaptive personality domains. In particular, we proposed this moderation would be significant in relation to the negative affectivity, antagonism, and disinhibition domains because of their association with Cluster B personality disorders (APA, 2013). No hypotheses were generated as to a potential moderation of the detachment and psychoticism domains, due to an overall lack of research with these constructs. Overall, our results provided mixed support for our hypotheses. For instance, at the multivariate level, our hypothesis regarding overall mentalizing moderating the relation between attachment avoidance and personality was supported; however, this was not true for attachment dependence. Additionally, when examined at the univariate level, we found a significant moderation of overall mentalizing on the association between attachment avoidance and the negative affectivity domain, such that those participants high on attachment avoidance and with less accurate mentalizing abilities endorsed higher negative affectivity than those individuals with similar attachment avoidance scores but more accurate mentalizing abilities. This moderation was not observed for any other personality domain. Finally, given that the moderation of negative affectivity was significant, we explored the trait facets underlying this domain as possible dependent variables in posthoc analyses. Results subsequently supported the interaction of mentalizing ability and attachment avoidance for the emotional lability, hostility, and perseveration trait facets, but not for

the remaining four facets (i.e., anxiousness, lack of restricted affectivity, separation insecurity, and submissiveness).

Broadly, our significant findings are consistent with the literature body on the mentalization model, particularly when examining the vast research connecting the model to Borderline Personality Disorder (BPD; Fonagy & Luyten, 2009; Bateman & Fonagy, 2016; Fonagy & Bateman, 2016)—a disorder marked by pervasive difficulties with mood lability, hostile behaviors, and tumultuous interpersonal relationships (APA, 2013). Indeed, the results also lend support to the application of the mentalization model to the *DSM-5*'s alternative model of Antisocial Personality Disorder (ASPD), given that hostility is one of the pathological personality traits proposed to underlie this disorder (APA, 2013) and previous research has found utility in treating ASPD patients with Mentalization-Based Treatment (MBT; Bateman & Fonagy, 2008, 2013, 2016; Newbury-Helps et al., 2017). The current study thus extends these results to a dimensional model of maladaptive personality, suggesting the mentalization model also applies to individuals with high levels of negative affectivity, regardless of diagnostic classification. Additionally, our study supports prior research indicating mentalizing ability may act as a transdiagnostic mechanism by providing MBT for a wide range of diagnoses, including eating disorders and substance use (Bateman & Fonagy, 2013; Kelton-Locke, 2016; Kuipers et al., 2016; Lana et al., 2016).

Nevertheless, our lack of significant findings in relation to the antagonism and disinhibition conflicts with prior research supporting the application of the mentalization model to Narcissistic Personality Disorder (NPD) and ASPD, as the alternative model of personality disorders proposes that the disorders are primarily composed of traits related

to antagonism (and disinhibition for ASPD; APA, 2013). For instance, the *DSM-5* outlines the alternative NPD diagnosis as consisting of the grandiosity and attention-seeking traits, both of which are facets underlying the antagonism domain, while five of the six traits composing the alternative ASPD diagnosis are related to antagonism or disinhibition (APA, 2013). Additional research on the relation between the maladaptive domains and the construction of the alternative model of personality disorders supports antagonism being the domain most highly correlated with NPD ( $r = .78$ ) as compared to negative affectivity ( $r = .28$ ), and similar findings for the antagonism ( $r = .51$ ) and disinhibition ( $r = .74$ ) domains with ASPD compared to negative affectivity ( $r = .15$ ; Fowler et al., 2015).

It should be noted, however, that BPD was the disorder on which the mentalization model was originally theorized (Fonagy et al., 1991), and the model has only more recently been applied to other Cluster B personality disorders (Bennett, 2006; Bateman & Fonagy, 2008; Bateman et al., 2013; Diamond et al., 2014; Bateman & Fonagy, 2016). As such, the research connecting the mentalizing model to NPD and ASPD is relatively limited, and, particularly with NPD, based more on theoretical underpinnings rather than empirical support. For instance, only one study to this author's knowledge has empirically explored the mentalization model's application to NPD and did so in a sample of individuals with comorbid BPD (Diamond et al., 2014). Taking this into consideration, it may be that the mentalization model is truly only related to the negative affectivity aspect of maladaptive personality, resulting in the model being most closely linked with a disorder that is largely comprised of negative affectivity-related traits—BPD ( $r = .81$  between BPD and the negative affectivity domain in Fowler et al.,

2015). Indeed, the heterogeneity in this disorder is quite extensive, given that there are 256 different ways to be diagnosed with BPD according to the *DSM-5*'s diagnostic criteria (APA, 2013; Hawkins et al., 2014). Subsequently, it may be that what was previously conceptualized as the mentalization model of BPD is more accurately described as the mentalization model of negative affectivity.

This new conceptualization of the mentalization model's link to psychopathology may also explain why MBT has been demonstrated as efficacious within an ASPD population (Bateman & Fonagy, 2008, 2013, 2016; Newbury-Helps, Feigenbaum, & Fonagy, 2017), and warrants future research into the application of the mentalization model to any disorder that has a negative affectivity component, particularly those disorders with symptoms related to hostility, emotional lability, and perseveration. For example, the alternative model of personality disorders proposes perseveration as one of the trait facets underlying Obsessive-Compulsive Personality Disorder (OCPD), and negative affectivity has also been linked to depression-, anxiety-, and trauma-related disorders (APA, 2013). As such, the mentalization model's application to the Cluster B personality disorders, as well as any other disorder with a basis of negative affectivity, should continue to be empirically explored, both dimensionally and categorically, so as to gain a more informed understanding of the development of these disorders.

Another particularly interesting finding from our study is the significant moderation of mentalizing ability when examining attachment avoidance, but not attachment dependence. Indeed, given that our study is the first to apply the mentalization model to dimensional personality, there are no other studies that can fully support or oppose our findings. Nevertheless, many researchers have examined the mentalization

model in relation to BPD and done so with both categorical (e.g., dismissing, preoccupied) and dimensional constructs (i.e., avoidance dimension, dependence/anxiety dimension) of attachment. Overall, this literature body provides mixed results regarding the interaction between mentalizing and attachment constructs, such that some studies provide support for our findings while others do not.

In support of our findings, some studies have found links between attachment avoidance and mentalizing. For instance, when examining the relation between attachment and mentalizing using the Attachment Styles Questionnaire (ASQ), Fossati and colleagues (2015) found the Discomfort with Closeness and Relationships as Secondary subscales (both of which are related to the avoidance dimension) to be positively correlated with perseveration and hostility, two of the three trait facets that were moderated by overall mentalizing and attachment avoidance in the current study. Additionally, Bączkowski & Cierpiałkowska (2015) found that attachment avoidance was related to perspective-taking, one specific aspect of mentalizing; however, this same study did not determine any relations between this attachment construct and more general characteristics of mentalizing. Finally, a neuro-imaging study conducted by Schneider-Hassloff, Straube, Nuscheler, Wemken, & Kircher (2015) indicated the neural network activated by a mentalizing task is different across insecure attachment dimensions. More specifically, these researchers determined that the activation of those brain regions highly associated with emotion regulation (e.g., amygdala, cingulate cortices) was positively associated with attachment avoidance and negatively correlated with attachment anxiety (i.e., dependence; Schneider-Hassloff et al., 2015). These findings, in combination with our own, therefore suggest attachment avoidance may encourage poor mentalizing skills

via increased emotion regulation, subsequently resulting in greater symptoms of negative affectivity, particularly those related to perseveration, hostility, and emotional lability. Nevertheless, additional studies should be undertaken to either confirm or refute this latter hypothesis.

Conversely, and in opposition to our findings, other studies demonstrate a significant moderation of mentalizing with only attachment dependence, in which those individuals high on this dimension (including those categorized as preoccupied), but not avoidance, are more likely to be diagnosed with BPD or display symptoms consistent with BPD (e.g., emotion dysregulation; Outcalt, et al., 2015; Marszał & Jańczak, 2018). One potential explanation for this difference in findings is the specific mentalizing ability tapped in these studies as compared to the current project. For instance, while the tasks used in the aforementioned studies utilized measures that examined mentalizing abilities for the self and others (Outcalt et al., 2015: the Metacognition Assessment Scale—Abbreviated [MAS-A]; Marszał & Jańczak, 2018: the Mental States Task [MST]), the current study's mentalizing measure, the MASC, assesses mentalizing by asking participants to hypothesize about fictional characters' emotional and mental states (Fonagy & Luyten, 2009; Dziobek et al., 2006). Additionally, individuals high on attachment avoidance are inherently characterized by avoiding close contact with others (Bartholomew & Horowitz, 1991). Subsequently, it may be that the MASC is more sensitive to detecting mentalizing errors among high-avoidance individuals, but less useful in perceiving errors with those individuals high on dependence (i.e., individuals who often look to others for validation and intimacy; Bartholomew & Horowitz, 1991). Mentalizing ability should therefore again be examined as a moderator within the context

of attachment and dimensional maladaptive personality, in which a self-focused mentalizing task is used, with the intentions of this future study to be 1) extending the mentalization model as a moderator of the dependence dimension and personality, and 2) exploring the difference in outcome when utilizing a self-focused, rather than other-focused, mentalizing measure.

Although our results pertaining to the mentalization model were our primary aim, we also sought to examine relations between attachment insecurity and the maladaptive personality domains, in which we hypothesized that attachment insecurity would be positively associated with those maladaptive personality domains underlying Cluster B personality disorders. More specifically, we predicted that individuals with higher rates of attachment dependence or avoidance would also score higher on the negative affectivity, antagonism, and disinhibition personality domains; no predictions were generated as to the detachment and psychoticism domains. Our results suggested attachment dependence was significantly, positively associated with personality at the multivariate level, as well as with each of the personality domains (i.e., negative affectivity, detachment, antagonism, disinhibition, and psychoticism) at the univariate level. Furthermore, significant, positive associations were also found at the multivariate level when examining the trait facets underlying the negative affectivity domain, as well as two of these trait facets at the univariate level (i.e., lack of restricted affectivity and hostility). Indeed, our findings on attachment dependence are consistent with previous research on the relation between this construct and dimensional personality, in which dependence was significantly associated with all domains of the Five-Factor Model (FFM; Griffin & Bartholomew, 1994b; Bäckstrom & Holmes, 2001), in addition to the

five maladaptive personality domains and 24 of 25 maladaptive trait facets (Fossati et al., 2015). Finally, the current study extends these findings to a diverse sample of American undergraduate students, as previous studies used samples of Swedish students (Bäckstrom & Holmes, 2001) and Italian adults (Fossati et al., 2015).

Interestingly, despite these prior studies supporting the link between attachment avoidance and dimensional personality (Griffin & Bartholomew, 1994b; Bäckstrom & Holmes, 2001; Fossati et al., 2015), our study did not provide additional evidence for this relation with maladaptive personality, such that the multivariate relation between these constructs was not significant. Still, only one study (Fossati et al., 2015) to this author's knowledge has demonstrated a tentative link between attachment avoidance and the maladaptive personality domains, and did so with a different measure of attachment: the Attachment Styles Questionnaire (ASQ). Although the ASQ and our measure, the Relationship Questionnaire (RQ), both assess attachment dependence and avoidance, the ASQ does so across five scales and 40 questions (as opposed to the RQ's two dimensions and five questions). Subsequently, the ASQ may be more sensitive to subtle differences between participants when compared to the RQ on the avoidance dimension. As such, additional endeavors should be made to explore the differences between these measures in relation to attachment avoidance and maladaptive personality.

Furthermore, Fossati and colleagues (2015) conducted their study with a sample of Italian adults. Though attachment is often considered to be relatively stable cross-culturally (van Ijzendoorn et al., 1999; Shmueli-Goetz et al., 2008; Bakermans-Kranenburg & van Ijzendoorn, 2009) and across the lifespan (Dinero et al., 2008; Zayas et al., 2011; Booth-LaForce et al., 2014), it may be that either or both of these factors

moderate the relation between attachment avoidance and personality, such that the level of this construct is different during young adulthood (i.e., the time of life that most of our participants were in at the time of data collection) than later in adulthood. It should be noted that, because much of our data was collected from individuals participating in an introductory psychology class during the fall semester, many of our participants were likely enrolled in their first semester of college and experiencing their first time away from home. Indeed, past research has indicated this time of life is marked by increased levels of *separation-individuation*, a developmental process during which emerging adults begin to separate themselves from parents in order to form a more coherent and autonomous self-identity, and which is predictive of better adjustment to college and lower rates of depression and loneliness (see Mattanah, Hancock, & Brand, 2004, for a review). As such, our sample's attachment avoidance distribution may have been higher on average and had less variability ( $M = 0.65, SD = 4.40$ ) than the Fossati and colleagues' (2015) sample related to the samples' differing developmental stages at the time of data collection (though these distributions are unable to be directly compared due to a difference in attachment measure). Still, additional research is needed to confirm these postulations and explore the potential moderating effect of separation-individuation on the relation between attachment avoidance and personality.

Lastly, in addition to the main effects of attachment insecurity, we also expected that mentalizing ability would be negatively associated with those maladaptive personality domains most closely linked with Cluster B personality disorders (i.e., negative affectivity, antagonism, and disinhibition), such that individuals with better overall mentalizing skills would score lower in these domains. Our results did not support

this hypothesis, as evidenced by the detachment domain being the only personality variable that demonstrated a significant association with overall mentalizing. Given that mentalizing errors have been repeatedly linked to personality pathology, most notable being BPD (see Sharp & Kalpakci, 2015, or Sharp & Vanwoerden, 2015, for a review) and other Cluster B personality disorders (Bateman, Bolton, & Fonagy, 2013; Fossati et al., 2017), this lack of findings was quite surprising. Nevertheless, the previous literature demonstrating relations between mentalizing and *dimensional* personality is much more limited (Nettle & Liddle, 2008; Allen et al., 2017; Dimitrijević et al., 2017), particularly when examining maladaptive domains and trait facets (Fossati et al., 2017; da Costa et al., 2018). Additionally, previous studies utilized correlational methods when examining mentalizing pathological personality, rather than multivariate analyses like the current study. For instance, da Costa and colleagues' (2018) study primarily centered on bivariate correlations between overall mentalizing and the maladaptive personality domains, whereas Fossati and colleagues (2017) utilized partial correlational analysis to explore these constructs' relations to one another. Indeed, although our study conducted a priori power analyses, we utilized a more complex model that may have failed to detect small effects found in prior research. Subsequently, replication is needed to confirm the findings reported herein and avoid conclusions that have inadvertently capitalized upon Type I error or sample anomalies.

### **Limitations and Directions for Future Study**

This study need not be considered without limitation. Notably, these analyses were conducted from cross-sectional data and causal inferences therefore cannot be made. As such, longitudinal data using these same constructs should be obtained and

analyzed, in order to determine if mentalizing does indeed moderate the relation between attachment constructs and dimensional personality across the lifespan. Furthermore, response style biases and shared method variance cannot be eliminated as a possibility for self-report measures (e.g., the PID-5-SF, RQ). Future studies should attempt to collect data via non self-report approaches, such as the Adult Attachment Interview (i.e., the gold standard in assessing attachment style within adult populations) or observational methods, in order to reduce potential sources of statistical noise. Lastly, although our sample of undergraduate students displayed adequate variability on the personality measures, several of the domains and trait facets, such as psychoticism and antagonism, were negatively skewed (i.e., most participants reported themselves to have low levels of these traits). Subsequently, our hypotheses should also be tested within a clinical sample, a setting wherein maladaptive personality traits are observed more often and could provide greater variability in personality-related variables.

Notwithstanding these limitations, the present study expands the current evidence base regarding relations between dimensional personality traits, attachment, and mentalizing ability to a diverse sample of undergraduate students. Our study's use of the MASC serves as a relative strength of the current study, particularly due to the MASC being named as the gold standard in the field of mentalizing assessment. Indeed, the MASC's ability to ascertain mentalizing ability by showing participants a short film and asking associated questions, as compared to self-report measures of mentalizing, is quite novel. Furthermore, the current study was the first to this author's knowledge to use the MASC in an online format, thereby opening the door for this measure to be utilized in research laboratories that may not have the funds or resources to conduct in-person

assessments. Finally, another strength of the study was the sample's diversity, as over one-half of the sample was of ethnic minority status and, for both Hispanic and Black or African American individuals, the sample's ethnic breakdown was more diverse than that of the United States' population (U.S. Census, 2018).

In sum, given that no other study has explored the application of the mentalization model to dimensional, maladaptive personality, our results are the first of their kind and indicate that mentalizing ability does, in fact, moderate the association between attachment and negative affectivity; however, it does so in relation to the attachment avoidance dimension only. More specifically, the present study established that individuals high on attachment avoidance and with less accurate mentalizing abilities rated themselves as experiencing more negative affectivity than those individuals with similar attachment avoidance scores but higher mentalizing abilities. These findings were also demonstrated with three of the seven trait facets underlying the negative affectivity domain, emotional lability, hostility, and perseveration. However, inconsistent with our hypotheses, mentalizing was not found to moderate the antagonism and disinhibition domains, nor did it moderate the psychoticism and detachment domains. Still, our findings support the mentalization model's application to a dimensional understanding of pathological personality as well as the use of Mentalization-Based Treatment (MBT), particularly given the links between negative affectivity and BPD (APA, 2013; Fowler et al., 2015; Calvo et al., 2016). Indeed, the current study's results stand to inform intervention protocol, as they suggest MBT would be particularly useful for those individuals who frequently experience mood lability, hostility, or perseverating thoughts, in addition to decreased mentalizing abilities. Therefore, the impact of the present study

lies in identifying individuals who experience negative affect, regardless of their diagnosis, with the aim of reducing their symptoms via improved mentalizing abilities.

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doi:10.1177/1948550610389822

## VITA

**Ericka Ball Cooper**

### EDUCATION

#### **Ph.D. in Clinical Psychology**

Sam Houston State University, Huntsville, TX

Expected: August 2020

- Research foci: Adolescent mental health, parental relationships, personality disorders
- Thesis: *The Moderating Role of Maternal Attachment on Borderline Personality Disorder Features and Dependent Life Stress* (Defended October 6, 2016)
- Dissertation: *Applying the Mentalization Theory to the Dimensional Trait Model of Maladaptive Personality* (Proposed June 4, 2018)

#### **M.S. in Psychological Sciences**

University of Texas at Dallas, Richardson, TX

Graduated: May 2015

- Completed 20 hours per week in a developmental psychology research lab working with low-income ethnic minority families.

#### **B.A. in Psychology and B.S. in Criminology**

University of Tampa, Tampa, FL

Graduated: May 2010

- Magna Cum Laude, Dean's List
- 3.87 Major GPA for Psychology; 3.83 Major GPA for Criminology

### CLINICAL ACTIVITIES

#### **Psychology Intern (Pre-Doctoral Therapist and Assessor)**

May 2018-Present

Montgomery County Sheriff's Office, Jail Division, Conroe, TX

Supervisor: Darryl Johnson, Ph.D. (Phone: 936-294-2256; Email: [PSY\\_DWJ@shsu.edu](mailto:PSY_DWJ@shsu.edu))

- Conduct brief symptomology assessments to assist jail mental health staff in determining patients' mental health needs and relevant psychosocial history
- Engage in long-term therapy with inmates from an evidence-based approach
- Lead weekly group therapy sessions focused on sleep hygiene, distress tolerance, interpersonal effectiveness, and the cognitive-behavioral model
- Provide brief interventions to inmates in acute distress

#### **Psychology Intern (Pre-Doctoral Assessor)**

June 2017-May

2018

Montgomery County Juvenile Probation Department, Conroe, TX

Supervisor: Wendy Elliott, Ph.D. (Phone: 936-294-2509; Email: [WElliott@shsu.edu](mailto:WElliott@shsu.edu))

- Conducted court-ordered and voluntary assessments of justice-involved youth via:
  - Clinical interviews with juveniles and parents, and

- Standardized testing to assess intellectual, academic, and behavioral functioning
- Provided reports to juvenile probation department and juvenile courts with diagnostic and treatment recommendations

**Student Clinician (Pre-Doctoral Therapist and Assessor) August 2016-Present**

SHSU Psychological Sciences Center, Huntsville, TX

Current or Former Clinical Supervisors: Jaime Anderson, Ph.D.; Mary Alice Conroy, Ph.D.; Wendy Elliott, Ph.D.; and Darryl Johnson, Ph.D.

- Conduct outpatient clinical assessments to evaluate clients for learning disabilities, overall psychopathology, and need for academic accommodations
- Provide therapy to adolescent and adult clients in an outpatient setting, utilizing Cognitive-Behavior Therapy (CBT), Acceptance and Commitment Therapy (ACT), Dialectical Behavior Therapy (DBT), and Motivational Interviewing (MI) techniques
- Conduct various types of court-ordered forensic evaluations, including competency and sanity evaluations, and juvenile assessments while supervised by a licensed clinical psychologist
- Peer supervisor to junior students providing therapy and assessment services

**Child Protective Investigator**

**July 2010-July 2013**

Hillsborough County Sheriff's Office, Tampa, FL

Supervisor: Roseann Hillmann (Phone: 813-247-8000)

- Investigated alleged abuse, neglect, and/or abandonment of children through interviews with parents and children, as well as home visits
- Took action, if necessary, to ensure child safety; involvement with the court system and social services by testifying in court and preparing court documents
- Field Training Investigator (May 2012 - July 2013)
- Three commendations on file related to community service, quality of work, and "going above and beyond" the required aspects of the job

## RESEARCH ACTIVITIES

**Laboratory Experience**

**Graduate Research Assistant**

**September 2015-Present**

Sam Houston State University, Huntsville, TX

Research Advisor: Amanda Venta, Ph.D. (Phone: 936-294-2436; Email: [aventa@shsu.edu](mailto:aventa@shsu.edu))

- Assist in mentoring undergraduate students on research projects
- Author and assist in writing manuscripts
- Present laboratory manuscripts and posters at various conferences
- Collect data across several projects and populations, including:
  - Justice-involved youth (PAJIY project)
  - Human trafficking survivors (HAWC project)
  - Undergraduate college students (Dissertation project)

- Incarcerated males (Lonestar project)
- Taught an introduction to collegiate studies class (2015-2016)
- Created twice-monthly newsletters to disseminate information to high-risk students

### **Child Assessor/Graduate Research Assistant**

**August 2013-August 2015**

University of Texas at Dallas, Richardson, TX

Research Advisor: Margaret Owen, Ph.D. (Email: [mowen@utdallas.edu](mailto:mowen@utdallas.edu))

- Assessed self-regulation, executive functioning, and academic achievement in a sample of low-income ethnic minority children
- Coded parent-child interactions and assisted in developing coding scales
- Coordinated and provided training to new and established child assessors

### **Honors and Awards**

- 2019 American Psychology-Law Society Annual Student Travel Award
- 2018 American Psychology-Law Society Annual Student Travel Award
- 2016 Texas Psychological Association Diversity Division Student Paper Award
- 2016 Texas Psychological Association Second Place Student Poster Award
- Co-author: 2017 American Psychology-Law Society Annual Student Travel Award

### **Peer-Reviewed Journal Articles**

Venta, A., **Ball Cooper, E.**, Bristow, J., & Venta, E. (In press). Preliminary data linking American consumer perceptions with unauthorized migration to the U.S. *Journal of International Migration and Integration*. doi:10.1007/s12134-018-0612-y

**Ball Cooper, E.**, Venta, A., & Sharp, C. (2018). The role of maternal care in borderline personality disorder and dependent life stress. *Borderline Personality Disorder and Emotion Dysregulation*, 5(5), 1-5. doi:10.1186/s40479-018-0083-y

**Ball Cooper, E. M.**, Abate, A. C., Airrington, M. D., Taylor, L. K., & Venta, A. C. (2018). When and how do race and ethnicity explain patterns of dysfunctional discipline? *Journal of Child and Family Studies*, 27(3), 966-978. doi:10.1007/s10826-017-0931-1

Venta, A., **Ball Cooper, E.**, Shmueli-Goetz, Y., & Sharp, C. (2018). Artificial neural network coding of the Child Attachment Interview using linguistic data. *Attachment & Human Development*, 20(1), 62-83. doi:10.1080/14616734.2017.1378239

### **Manuscripts in Preparation**

Monroe, Z., **Ball Cooper, E.**, Pachecho, D., Owen, M., & Caughy, M. Physical discipline and socioemotional development in low-income ethnic minority preschoolers: The moderating role of maternal parenting qualities.

**Ball Cooper, E.**, Venta, A., Anderson, J., Langley, H., & Sharp, C. Applying the mentalization theory to the dimensional trait model of maladaptive personality. (Dissertation)

**Ball Cooper, E., Abate, A., Waymire, K., Galicia, B., Malchow, A., & Venta, A.** The longitudinal impact of parental hostility and exposure to violence on borderline personality features among justice-involved youth.

### **Presentations and Posters**

**Ball Cooper, E., Hart, E., & Venta, A.** (Under review). *The moderating role of inmate housing placement on hopelessness and psychopathology*. Paper submitted to the 2019 American Psychology-Law Society Annual Meeting, Portland, OR.

**\*Recipient of the 2019 AP-LS Student Travel Award**

**\*Ball Cooper, E., Abate, A., Waymire, K., Galicia, B., Malchow, A., & Venta, A.** (March 2018). *The longitudinal impact of parental hostility and exposure to violence on borderline personality features among justice-involved youth*. Paper presented at the 2018 American Psychology-Law Society Annual Meeting, Memphis, TN.

**\*Recipient of the 2018 AP-LS Student Travel Award**

**Ball Cooper, E.M., Venta, A., & Sharp, C.** (August 2017). *The moderating role of maternal attachment on borderline personality disorder features and dependent life stress*. Poster presented at the 2017 American Psychological Association Annual Convention, Washington, D.C.

Venta, A., Shmueli-Goetz, Y., **Ball, E.**, Sharp, C. Woodhouse, S., Beeney, J., ...Olsson, C. (June 2017). *Artificial neural network coding of the Child Attachment Interview using linguistic data*. Paper presented at the International Attachment Conference, London, U.K.

**\*Abate, A., Harmon, J., Marshall, K., Hart, J., Ball, E., Henderson, C., Desforjes, D., & Venta, A.** (March 2017). *Perceptions of the legal system and recidivism: Investigating the mediating role of perceptions of chances for success in juvenile offenders*. Paper presented at the American Psychology-Law Society Annual Meeting, Seattle, WA.

**\*Recipient of the 2017 AP-LS Student Travel Award**

Schiafo, M., **Ball, E.**, Waymire, K., Ryan, L., & Henderson, C. (March 2017). *Explaining the relation between aggression and delinquency: Individual and peer factors*. Poster presented at the American Psychology-Law Society Annual Meeting, Seattle, WA.

**\*Ball, E. M., Airrington, M. D., Abate, A. C., Taylor, L. K., & Venta, A. C.** (November 2016). *When and how do race and ethnicity explain patterns of dysfunctional discipline?* Paper and poster presented at the 2016 Texas Psychological Association Annual Conference, Austin, TX.

**\*Recipient of the 2016 TPA Diversity Division Student Paper Award**

**\*Recipient of the 2016 TPA Second Place Student Poster Award**

Magyar, M. S., **Ball, E. M.**, Hart, J. R., & Edens, J. F. (June 2016). *Borderline features: Critical mediator in the relation between childhood maltreatment and diverse aggressive and delinquent features among justice-involved youth*. Paper presented at the International Association of Forensic Mental Health Services Annual Conference, New York, NY.

Abate, A. C., Magyar, M. S., **Ball, E. M.**, Ricardo, M., Hart, J., & Edens, J. (March 2016). *Use of the Personality Assessment Inventory-Adolescent to assess trauma-related symptoms in justice-involved youth*. Paper presented at the American Psychology-Law Society Annual Meeting, Atlanta, GA.

Hart, J. R., Magyar, M. S., **Ball, E. M.**, Camins, J., & Ridge, B. (March 2016). *Using the Personality Assessment Inventory-Adolescent to predict high-risk behaviors among juvenile male offenders*. Paper presented at the American Psychology-Law Society Annual Meeting, Atlanta, GA.

### WORKSHOPS ATTENDED

Borderline Personality Disorder in Adolescents: Assessment, Diagnosis, and Treatment. (November 2017). Hosted by the University of Houston, Houston, TX.

Bridging the Gap: Developing Effective Prevention and Early Intervention Strategies for Borderline Personality Disorder in Adolescents. (June 2016). Hosted by the University of Houston and Menninger Clinic, Houston, TX.

Motivational Interviewing: Basics and Beyond. (April 2016). Hosted by Joe Mignogna and the Sam Houston Area Psychological Association, Huntsville, TX.

### TEACHING ACTIVITIES

**Course:** *Introduction to Collegiate Studies (UNIV 1301)*-Undergraduate  
**Institution:** Sam Houston State University, Huntsville, Texas  
**Semesters:** Fall 2015, Spring 2016

### SERVICE

#### Ad Hoc Reviewing

- *Journal of Child and Family Studies* (Impact Factor = 1.163)
- *Journal of Psychopathology and Behavioral Assessment* (Impact Factor = 1.792)
- *Personality and Mental Health* (Impact Factor = 1.182)

#### Other Reviewing

- *Graduate Student Reviewer, American Psychology and Law Society (AP-LS) 2017, 2018, and 2019 Annual Conferences*

## PROFESSIONAL MEMBERSHIPS AND LEADERSHIP

- Sam Houston State University Graduate Student Psychology Organization Member
  - Treasurer (2017-2018)
- International Association of Forensic Mental Health Services Student Member
- American Psychological Association Student Member
  - Division 1 Student Member
- American Psychology and Law Society Student Member
  - Conference Presentation Student Reviewer, 2017-2018
- Texas Psychological Association Student Member
- Association for Psychological Science Student Member
- Peer Supervisor, Sam Houston State University (2016-2017)
- Graduate Student Mentor to a First-Year Doctoral Student (2017-2018)