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BIPOLARITY OF MALADAPTIVE PERSONALITY TRAITS IN THE ALTERNATIVE MODEL OF PERSONALITY DISORDERS

THESIS

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in the College of Arts and Sciences at the University of Kentucky

By

Alexandra Hines

Director: Dr. Thomas Widiger, Professor of Clinical Psychology

Lexington, KY

2023

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ABSTRACT OF THESIS

BIPOLARITY OF MALADAPTIVE PERSONALITY TRAITS IN THE ALTERNATIVE MODEL OF PERSONALITY DISORDERS

It has been posited that extremely high or extremely low levels of any personality trait in the Five Factor Model of Personality can be maladaptive. However, the Alternative Model of Personality Disorders (AMPD) in Section III of the DSM-5 is composed almost exclusively of unipolar maladaptive traits. The lack of maladaptively low neuroticism and high extraversion fails to fully cover psychopathy; the lack of maladaptively high extraversion fails to cover histrionic personality disorder (HPD); the lack of maladaptively high agreeableness fails to cover dependent personality disorder (DPD); and the lack of maladaptively high conscientiousness fails to cover obsessivecompulsive personality disorder (OCPD). The goal of the present study was to discern whether Five Factor Model Personality Disorder (FFMPD) scales demonstrate incremental validity over the Personality Inventory for DSM-5 (PID-5) in capturing variance in symptom measures of each of these personality disorders. A combined sample of N = 733 completed an online questionnaire battery that included the PID-5 and FFMPD scales for psychopathy, HPD, DPD, and OCPD, along with symptom measures for each of these conditions. A series of hierarchical regression models was conducted in which each symptom measure was regressed on the PID-5 (entered in Step 1) and the corresponding FFMPD measure (entered in Step 2). Results suggest that adding the FFMPD measure to the models accounted for significantly more variance in its corresponding symptom measure than the PID-5 alone. Taken together, these results suggest that maladaptive variants of personality traits that are often considered healthy (e.g., high extraversion, low neuroticism) confer important information about personality disorder symptoms and functioning and should be included in the AMPD.

KEYWORDS: personality, alternative model, psychopathy, dependent, histrionic, obsessive-compulsive

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BIPOLARITY OF MALADAPTIVE PERSONALITY TRAITS IN THE ALTERNATIVE MODEL OF PERSONALITY DISORDERS

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DEDICATION

To Mom and Tom

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CHAPTER 1. INTRODUCTION

1.1 Background

The Alternative Model of Personality Disorders (AMPD) is a proposed model of personality disorders included in Section III of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association [APA], 2013). Criterion B of the AMPD, hereafter referred to as the DSM-5 trait model, consists of five dimensional personality trait domains: negative affectivity, detachment, psychoticism, antagonism, and disinhibition (Krueger et al., 2012). As stated in DSM-5, "these five broad domains are maladaptive variants of the five domains of the extensively validated and replicated personality model known as the 'Big Five,' or the Five Factor Model of personality [FFM]" (APA, 2013, p. 773; Krueger & Markon, 2014). The FFM contains the trait domains of neuroticism, extraversion, openness, agreeableness, and conscientiousness, which have been found consistently across languages and cultures (John et al., 2008; McCrae & Costa, 1997).

However, maladaptive personality traits in the DSM-5 trait model are unipolar. It is said that there are "healthy, adaptive, and resilient personality traits identified as the polar opposite of [the DSM-5] traits, [including] emotional stability [opposite to negative affectivity], extraversion [opposite to detachment], lucidity [opposite to psychoticism], agreeableness [opposite to antagonism], and conscientiousness [opposite to disinhibition]" (APA, 2013, p. 773). There is one exception; the DSM-5 trait model includes rigid perfectionism, a facet of conscientiousness (Krueger et al., 2012). The Personality Inventory for DSM-5 (PID-5), which is designed to assess the personality domains and facets in the DSM-5 trait model, assesses primarily unipolar aspects of maladaptive personality traits (Krueger et al., 2012). Figure 1 illustrates the unipolarity of the DSM-5 trait model.

Although the DSM-5 trait model is unipolar in nature, Crego and colleagues (2019) created a model to demonstrate the bipolarity of maladaptive personality structure. In sets of two, four, six, and eight FFMPD scales per domain, bipolarity was present in four out of five of the FFM trait domains. The one trait domain for which a bipolar structure did not emerge was openness. There do appear to be maladaptive traits at both poles of openness, but they are not opposite to one another. Aspects of low openness (i.e., inflexibility, close-mindedness) and high openness (i.e., magical thinking, eccentricity) occupy opposite poles, but they are not true conceptual opposites of one another (Crego et al., 2019).

The bipolar structure of Crego et al. (2019) began to break down when eight scales for each domain were added. Crego et al. (2019) suggested that the bipolar structure of maladaptive personality is fragile for several reasons. First, maladaptive trait scales on opposite poles should correlate negatively with each other, but the impairment common to both poles often drives positive correlations. For example, laxness and excessive perfectionism, maladaptive traits at opposite poles of conscientiousness, can both lead to poor work performance. As a result, traits that are conceptually opposite to one another may load in the same direction on a general factor of personality disorder (Pettersson et al., 2012). Additionally, some traits occupy interstitial space, meaning that they are not precisely located on one pole. For example, the interpersonal circumplex (a model of only those traits relevant to interpersonal functioning) includes extraversion and

agreeableness, which exist between the axes of status and love (McCrae & Costa, 1989). Both these issues can prevent the appearance of bipolarity.

A lexical study of English words related to personality traits identified several maladaptive trait terms related to the Big Five for the trait poles excluded from the DSM-5 trait model: 71 undesirable traits for high surgency (akin to extraversion), 24 traits for high agreeableness, and 24 for high conscientiousness (Coker et al., 2002). Interestingly, only 12 traits were identified for low emotional instability (akin to neuroticism; Coker et al., 2002).

It is unclear why maladaptive variants at both poles were not included in the DSM-5 trait model. It is perhaps the case that bipolar maladaptivity was rejected to avoid complexity; in fact, much of the domain of compulsivity (opposite to disinhibition) was included within the initial version of the DSM-5 trait model but was removed to shorten and simplify the model (Widiger & Crego, 2019). By conceptualizing maladaptive personality traits as largely unipolar, the DSM-5 trait model and the PID-5 might not be able to comprehensively assess the full range of personality dysfunction currently defined by the personality disorder diagnoses in DSM-5. For example, it is possible that psychopathy would be more comprehensively covered by including maladaptively low neuroticism and maladaptively high extraversion, histrionic personality disorder (HPD) would be more comprehensively covered by including maladaptively high extraversion, dependent personality disorder (DPD) would be more comprehensively covered by including maladaptively high agreeableness, and obsessive-compulsive personality disorder (OCPD) would be more comprehensively covered by including more facets of maladaptively high conscientiousness.

1.2 Psychopathy

Psychopathy is thought to be composed of maladaptively low neuroticism (e.g., glib charm, fearlessness, and invulnerability) and high extraversion, along with antagonism and disinhibition (Widiger et al., 2012). Several measures of psychopathy include scales that concern low neuroticism. For instance, the Elemental Psychopathy Assessment (EPA; Lynam et al., 2011) contains four scales designed to measure low neuroticism: Unconcern, Self-Contentment, Self-Assurance, and Invulnerability. Similarly, the Triarchic Psychopathy Measure (TriPM; Patrick et al., 2009) contains a Boldness scale to assess charm and self-assurance associated with low neuroticism, and the Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005) contains Fearlessness and Stress Immunity scales.

Similarly, these psychopathy measures also include traits of high extraversion. The EPA contains Dominance and Thrill-Seeking scales (Lynam et al., 2011), while the TriPM Boldness inventory assesses dominance and persuasiveness (Patrick et al., 2009). The PPI-R contains a higher-order factor of Fearless Dominance, which combines traits from low neuroticism and high extraversion (Lilienfeld & Widows, 2005).

Lynam and Vachon (2012) were critical of the initially proposed DSM-5 trait model for failing to include traits of low neuroticism and high extraversion. In the final year of the construction of the DSM-5 trait model, there was a recognition of the failure to include these traits, perhaps in response to the Lynam and Vachon (2012) critique. It was therefore suggested in DSM-5 that clinicians and researchers assess these traits using measures of attention-seeking and negatively keying social withdrawal and anxiousness (APA, 2013). However, these suggestions do not serve as a replacement for directly

measuring invulnerability, boldness, or fearless dominance. Crego and Widiger (2014) reported that social withdrawal was uncorrelated with fearless dominance and boldness. Anxiousness was strongly and negatively correlated with fearlessness, but one is not directly assessing fearlessness by assessing the absence of maladaptive anxiousness. Finally, PID-5 Attention-Seeking is more relevant to histrionic personality disorder than it is to psychopathy (Crego & Widiger, 2014). Thus, the proposed solutions to the lack of maladaptively low neuroticism and maladaptively high extraversion in the AMPD diagnosis of psychopathy may be inadequate.

1.3 Histrionic Personality Disorder

HPD is characterized by maladaptively high extraversion according to researchers and clinicians alike (Lynam & Widiger, 2001; Samuel & Widiger, 2004). Certain aspects of high extraversion such as attention-seeking, flirtatiousness, and intimacy-seeking are central to the disorder (Samuel & Widiger, 2004). HPD has shown significant correlations with all six extraversion facets in the FFM, and, notably, was not correlated with any other trait domains or facets (Samuel & Widiger, 2008). One measure of HPD is the Five Factor Histrionic Inventory (FFHI; Tomiatti et al., 2012). It contains 13 subscales, five of which were originally intended to assess for maladaptive extraversion: Intimacy Seeking for warmth, Attention Seeking for gregariousness, Social Butterfly and Flirtatious for excitement-seeking, and Melodramatic Emotionality for positive emotionality.

However, not all the original FFHI Extraversion scales were primarily related to extraversion; Melodramatic Emotionality was shifted to the low agreeableness, or antagonism, domain after analysis (Tomiatti et al., 2012). Attention Seeking is

comparably placed within the antagonism domain of the DSM-5 trait model. The initial version of the DSM-5 trait model captured such traits as attention-seeking, flamboyance, audacity, and inappropriate sexualization in a histrionism domain. After relating these traits to the FFM domains, Gore and colleagues (2011) found that many of them had an equal if not stronger relation with antagonism than with extraversion; however, they were still related to extraversion. For example, it is possible that certain symptoms of HPD such as attention-seeking and inappropriate sexualization involve manipulation (i.e., an aspect of antagonism) in addition to extraversion (Gore et al., 2011).

Thus, the best solution for conceptualizing HPD may be to consider it as a disorder of both antagonism and extraversion. HPD has been proposed for deletion from the DSM-5, in large part from concerns of gender bias as well as a lack of research interest in the disorder (Blashfield et al., 2012). Notwithstanding this concern, improvement in its coverage in the AMPD is important for achieving the DSM-5's goal of assessing all clinically significant personality functioning (Gore et al., 2011). To cover HPD, the AMPD should perhaps include maladaptive variants of extraversion.

1.4 Dependent Personality Disorder

DPD is heavily defined by traits of agreeableness (Lynam & Widiger, 2001; Samuel & Widiger, 2004). A measure of DPD from the perspective of the FFM, the Five Factor Dependency Inventory (FFDI; Gore et al., 2012), includes 12 scales, four of which assess maladaptive agreeableness: Gullibility, Selflessness, Subservience, and Self-Effacing. The DSM-5 trait model includes a Submissiveness scale, which has demonstrated a strong association with the FFDI Subservience scale (Gore & Widiger, 2015), although it is located within the trait domain of negative affectivity (and detachment) rather than opposite to antagonism in the DSM-5 trait model. The DSM-5 trait model suggests that three traits of negative affectivity (i.e., separation insecurity, anxiousness, and submissiveness) would cover DPD. However, adequate coverage may also require the consideration of additional traits of maladaptive agreeableness, such as gullibility, selflessness, self-effacement, and subservience (Gore & Widiger, 2015).

1.5 Obsessive-Compulsive Personality Disorder

OCPD is primarily defined by conscientiousness (Lynam & Widiger, 2001; Samuel & Widiger, 2004). The original version of the DSM-5 trait model contained 37 trait facets to cover six maladaptive personality domains, including "disinhibition versus compulsivity" (Krueger et al., 2012; Skodol, 2012, p. 327). The compulsivity (or anankastia) domain was considered to be opposite to disinhibition (Krueger et al., 2011). Although the domain of compulsivity was removed from the DSM-5 trait model, two of its traits were retained: perseveration and rigid perfectionism. Only rigid perfectionism was placed opposite to disinhibition; perseveration was placed within negative affectivity.

Additionally, the World Health Organization (WHO) includes a dimensional trait model in the 11th edition of the International Classification of Diseases (ICD-11; WHO, 2018). The ICD-11 domain "Disinhibited [aligns with] with low conscientiousness," while the domain "Anankastic [aligns with] high conscientiousness" (Mulder et al., 2016, p. 85). Several researchers have provided evidence for the bipolarity of compulsivity versus disinhibition; the strong negative correlation between rigid perfectionism and disinhibition has been replicated several times (Crego et al., 2018; Crego & Widiger, 2016). Oltmanns (2021) refers to compulsivity and disinhibition as "bipolar opposites" and notes that, in the Personality Inventory for ICD-11 (PiCD), "a bipolar anankastia-

versus-disinhibition factor fit the data better than a five-factor solution with separate factors for anankastia and disinhibition" (pp. 48-49).

However, evidence for the bipolarity of compulsivity versus disinhibition is mixed. Kim et al. (2021) found a "small" association between conscientiousness and compulsivity and concluded that these two terms do not necessarily refer to the same construct. Despite these concerns, Kim et al. (2021) also noted that there was a negative association between disinhibition and conscientiousness. Additionally, Crego and colleagues (2019) note that certain Five-Factor Model Personality Disorder (FFMPD) scales, such as the Five Factor Obsessive-Compulsive Inventory (FFOCI; Samuel et al., 2012) would provide better coverage of maladaptively high conscientiousness and OCPD. The FFOCI includes six scales that concern maladaptive variants of conscientiousness: Perfectionism, Fastidiousness, Punctiliousness, Workaholism, Doggedness, and Ruminative Deliberation. Thus, additional facets of maladaptive conscientiousness could improve coverage of OCPD in the DSM-5 trait model.

1.6 Current Study

The purpose of the current study was to illustrate the potential value of including maladaptive variants of (low) neuroticism, (high) extraversion, (high) agreeableness, and (high) conscientiousness to provide an improved coverage of psychopathy HPD, DPD, and OCPD. To test this hypothesis, FFMPD measures (i.e., EPA, FFHI, FFDI, FFOCI), which include scales to assess for maladaptive variants of (low) neuroticism, (high) extraversion, (high) agreeableness, and (high) conscientiousness, were included to determine if they obtained incremental validity over the PID-5 in accounting for respective personality disorder variance assessed by the Triarchic Psychopathy Measure

(TriPM; Patrick et al., 2009), Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005), Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993), and the Millon Clinical Multiaxial Inventory-III – 2nd edition (MCMI-III; Millon et al., 1997).

CHAPTER 2. METHODS AND MATERIALS

2.1 Data Collection

To ease participant burden, survey items were split into two data collections. Data collection 1 included measures related to psychopathy and HPD (i.e., PID-5 psychopathy and HPD subscales, EPA, Tri-PM, PPI-R, FFHI, SNAP HPD items, and MCMI-III HPD items). Data collection 2 included measures related to DPD and OCPD (i.e., PID-5 DPD and OCPD subscales, FFDI, FFOCI, SNAP DPD and OCPD items, MCMI-III DPD and OCPD items). Participant population recruitment was slightly different for each data collection. Given the frequency with which psychopaths interact with the criminal justice system, participants were required to have a history of mental health treatment and/or arrest for data collection 1. For data collection 2, participants were only required to have a history of mental health treatment.

2.2 Measures

2.2.1 DSM-5 Trait Model

The DSM-5 trait model was assessed using the Personality Inventory for the DSM-5 (PID-5; Krueger et al., 2012). The PID-5 measures the five broad trait domains (negative affectivity, detachment, psychoticism, antagonism, and disinhibition) and 25 specific trait facets. The PID-5 includes 220 items (e.g., "I don't get as much pleasure out of things as others seem to," "People would describe me as reckless"), with items

measured on a 4-point Likert-type scale from 0 (very false or often false) to 3 (very true or often true).

Cronbach's alpha for the total PID-5 psychopathy score was excellent (α = .97). McDonald's omega for the PID-5 psychopathy facet scales ranged from good (Impulsivity ω = .86) to excellent (Callousness ω = .94). McDonald's omega for the total PID-5 histrionic score was good (ω = .88). McDonald's omega for the PID-5 histrionic facet scales were both excellent (Emotional Lability ω = .91, Attention Seeking ω = .94). McDonald's omega for the total PID-5 dependent score was excellent (ω = .94). McDonald's omega for the PID-5 dependent facet scales ranged from good (Submissiveness ω = .88) to excellent (Anxiousness ω = .95). McDonald's omega for the total PID-5 obsessive-compulsive score was excellent (ω = .91). McDonald's omega for the PID-5 obsessive-compulsive facet scales ranged from good (Restricted Affectivity ω = .86) to excellent (Rigid Perfectionism ω = .92).

2.2.2 Five-Factor Model Measures of Personality Disorders

Elemental Psychopathy Assessment. Psychopathy was measured using the Elemental Psychopathy Assessment (EPA; Lynam et al., 2011). The EPA contains scales designed to measure high neuroticism (Anger and Urgency) and low neuroticism (Unconcern, Self-Contentment, Self-Assurance, Invulnerability), high extraversion (Dominance, Thrill-Seeking) and low extraversion (Coldness), antagonism (Distrust, Manipulation, Self-Centeredness, Oppositional, Arrogance, Callousness), and low conscientiousness (Disobliged, Impersistence, Rashness). The EPA includes 178 items (e.g., "My tendency to be sneaky or deceptive has gotten me into trouble before," "I have gotten in trouble for failing to meet my obligations to others"), with items measured on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). McDonald's omega for the total EPA score was excellent ($\omega = .97$). McDonald's omega for the EPA subscales ranged from acceptable (Arrogance $\omega = .79$) to excellent (Thrill-Seeking $\omega = .91$).

Five-Factor Histrionic Inventory. HPD was measured using the Five Factor Histrionic Inventory (FFHI; Tomiatti et al., 2012). The FFHI contains scales designed to measure histrionic variants of neuroticism (Neediness for Attention, Rapidly Shifting Emotions), extraversion (Intimacy Seeking, Attention Seeking, Social Butterfly, Flirtatious), openness (Romantic Fantasies, Touchy Feely), antagonism (Melodramatic Emotionality, Suggestibility, Vanity), and low conscientiousness (Disorderly, Impressionistic Thinking). The FFHI includes 130 items (e.g., "I really enjoy being the center of attention," "My emotions can change quickly and unpredictably"), with items measured on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). McDonald's omega for the total FFHI score was excellent ($\omega = .97$). McDonald's omega for the FFHI subscales ranged from acceptable (Touchy Feely $\omega = .73$) to excellent (Rapidly Shifting Emotions $\omega = .93$).

Five-Factor Dependency Inventory. DPD was measured using the Five Factor Dependency Inventory (FFDI; Gore et al., 2012). The FFDI contains scales designed to measure dependent variants of agreeableness (Gullibility, Selflessness, Subservience, Self-Effacing), neuroticism (Separation Insecurity, Pessimism, Shamefulness, Helplessness), high extraversion (Intimacy Needs) and low extraversion (Unassertiveness), and low conscientiousness (Negligence, Ineptitude). The FFDI includes 120 items (e.g., "I sometimes feel worthless," "It takes a lot of encouragement from others for me to complete a task"), with items measured on a 5-point Likert scale

from 1 (strongly disagree) to 5 (strongly agree). McDonald's omega for the total FFDI score was excellent ($\omega = .98$). McDonald's omega for the FFDI subscales ranged from good (Selflessness $\omega = .84$) to excellent (Pessimism $\omega = .94$).

Five-Factor Obsessive-Compulsive Inventory. OCPD was measured using the Five Factor Obsessive-Compulsive Inventory (FFOCI; Samuel et al., 2012). The FFOCI contains scales designed to measure obsessive-compulsive variants of conscientiousness (Perfectionism, Fastidiousness, Punctiliousness, Workaholism, Doggedness, Ruminative Deliberation), neuroticism (Excessive Worry), low extraversion (Detached Coldness, Risk-Aversion), and low openness (Constricted, Inflexible, Dogmatism). The FFOCI includes 120 items (e.g., "People often think I work too long and hard to make things perfect," "People consider me a rather serious and reserved person"), with items measured on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). McDonald's omega for the total FFOCI score was excellent ($\omega = .95$). McDonald's omega for the FFOCI subscales ranged from acceptable (Detached Coldness $\omega = .78$) to excellent (Excessive Worry $\omega = .91$).

2.2.3 Symptom Measures of Personality Disorders

Triarchic Psychopathy Measure. The first symptom measure for psychopathy was the Triarchic Psychopathy Measure (TriPM; Patrick et al., 2009). The TriPM contains scales designed to measure the domains of Boldness (Optimism, Intrepidness, Resiliency, Courage, Dominance, Persuasiveness, Tolerance for Uncertainty, Self-Assurance, Social Assurance), Meanness (Excitement Seeking, (low) Empathy, Physical Aggression, Relational Aggression, Destructive Aggression, (low) Honesty), and Disinhibition (Impatient Urgency, (low) Dependability, Problematic Impulsivity,

Irresponsibility, (low) Planful Control, Theft, Alienation, Boredom Proneness,

Fraudulence). It includes 58 items (e.g., "I don't mind if someone I dislike gets hurt," "I enjoy a good physical fight"), with items measured on a Likert-type scale from 0 (false) to 3 (true). McDonald's omega for the total TriPM score was excellent ($\omega = .93$). McDonald's omega for the TriPM subscales were all excellent (Boldness $\omega = .90$, Meanness $\omega = .94$).

Psychopathic Personality Inventory-Revised. The second symptom measure for psychopathy was the Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005). The PPI-R contains scales designed to measure the domains of self-centered impulsivity (Machiavellian Egocentricity, Carefree Non-Planfulness, Rebellious Non-Conformity, Blame Externalization) and fearless-dominance (Social Influence, Fearlessness, Stress Immunity). It also contains a Coldheartedness scale that does not fall into either of the domains. Each scale is measured using the seven items that loaded most strongly on the scale during its initial construction. It includes 56 items (e.g., "I get mad if I don't receive special favors I deserve," "I could be a good 'con artist""), with items measured on a 4-point Likert-type scale from 1 (false) to 4 (true). McDonald's omega for the total PPI-R score was excellent ($\omega = .93$). McDonald's omega for the PPI-R subscales ranged from acceptable (Carefree Non-Planfulness $\omega = .76$) to good (Stress Immunity $\omega = .88$).

Schedule for Nonadaptive and Adaptive Personality. Symptom measures for HPD, DPD, and OCPD were obtained from the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993). The SNAP includes 375 items (e.g., "I enjoy more work than play," "I've gotten into more fights than most people"), with items measured

on a true/false scale. However, for the purpose of consistency with other measures, a 5point Likert scale from 1 (strongly disagree) to 5 (strongly agree) was used. Only the SNAP HPD items, DPD items, and OCPD items were administered in this study. McDonald's omega for the histrionic PD SNAP score was acceptable ($\omega = .75$). McDonald's omega for the dependent PD SNAP score was excellent ($\omega = .93$). McDonald's omega for the obsessive-compulsive PD SNAP score was acceptable ($\omega = .74$).

Millon Clinical Multiaxial Inventory-III. HPD, DPD, and OCPD were also assessed with scales from the Millon Clinical Multiaxial Inventory-III second edition (MCMI-III; Millon et al., 1997). The MCMI-III includes 175 items (e.g., "Lately, my strength seems to be draining out of me, even in the morning," "I know I'm a superior person, so I don't care what people think") with items measured on a true/false scale. However, for the purpose of consistency with other measures, a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) was used. Only the histrionic, dependent, and compulsive scales were administered in this study. McDonald's omega for the histrionic MCMI-III score was good ($\omega = .87$). McDonald's omega for the dependent MCMI-III score was excellent ($\omega = .91$). McDonald's omega for the obsessive-compulsive MCMI-III score was good ($\omega = .86$).

2.2.4 Other Measures

Validity Scales. At the beginning of the survey, participants were asked to correctly identify a digit in a photo. If participants answered correctly, the survey continued, and they completed five additional attention checks. Participants were presented with a long paragraph at the beginning of the survey; in the middle of the

paragraph, participants were asked to ignore what the paragraph said and type "notepad" as their answer. Additionally, four items designed to detect careless responding ("I have used a computer in the past 2 years," "I do not own more than one book," "Select strongly agree for this item," and "I was born on the moon") were included in random spots throughout the personality surveys. If participants failed the initial digit attention check, they were unable to complete the survey. If they passed the first attention check but failed three or more of the five subsequent attention checks, they were able to complete the survey, but their responses were excluded from analysis.

Demographics. Finally, the survey contained a demographics form. All participants were asked to provide their age, gender (e.g., woman, man, genderqueer, non-binary), whether they are cisgender or transgender, ethnicity, marital status, state of residence, and socioeconomic status (i.e., education level and current accessible income).

For data collection 1, participants were asked whether they had mental health treatment and/or arrest history. If they had mental health treatment history, they were asked the reason for their treatment, the last time they were in treatment, with whom they were in treatment (i.e., psychologist, family therapist), whether they have ever taken psychiatric medication, and whether they are currently taking psychiatric medication. If they had been arrested, they were asked what type of act they had been arrested for (e.g., misdemeanor or felony; theft, assault, drugs, death), if they had spent time in a correctional facility, and how long they spent in correctional facilities. Participants were required to have a history of mental health treatment and/or arrest; if the participant endorsed neither, they were excluded from the rest of the survey.

For the DPD and OCPD data collection, participants were asked whether they had mental health treatment history. If they did, they were asked the same mental health questions contained in data collection 1. If they did not, they were unable to complete the survey.

2.3 Procedure

IRB approval was obtained. Participants were recruited online from Amazon's CloudResearch service (formerly TurkPrime; Litman et al., 2017). CloudResearch is a service through which participants can be paid for completing surveys. Benefits of CloudResearch include the ability to prevent "farmers" (i.e., participants who often provide invalid responses) and "bots" (i.e., computer-generated participants) from completing surveys. CloudResearch also provides samples with more diverse ages, education levels, and income levels (but not races or ethnicities) than traditional college samples, and the validity of the data is often equal to or better than that of data collected using other methods (Miller et al., 2017; Paolacci et al., 2010; Shapiro et al., 2013).

For this study, participants must have completed at least 100 Human Intelligence Tasks (HITs), have a HIT approval rate of 95% or more, and be located in the United States. Only CloudResearch approved participants were able to participate. CloudResearch added demographic questions and scores to account for the consistency of gender reports to the data (Litman et al., 2017). For the psychopathy and HPD data collection, the advertisement requested that participants have a history of mental health treatment or arrest to participate. For the DPD and OCPD data collection, the advertisement requested that participants have a history of mental health treatment requested that participants have a history of mental health treatment to participate. Duplicate IP addresses, suspicious geocodes, and a small number of

participants who have caused problems during previous studies in the lab were blocked. CloudResearch verified worker country location and auto-captured worker information from the URL to ensure that worker IDs and data were consistent within and between studies (Litman et al., 2017). Participants were not allowed to complete either survey more than once. The HIT was visible to workers who qualified for seven days. The expected time to complete the assignment was listed as two hours, and participants could take no longer than six hours to complete the assignment.

Participants were paid \$4.00 automatically within two days for completing the survey. When CloudResearch was unable to automatically pay certain participants, their completion code and completion time were evaluated. Participants were paid manually unless they provided an incorrect completion code and/or completed the survey in an unreasonably short period of time (e.g., 5 minutes or less). Participants could skip any question except for the consent question, the question that asks whether they have received mental health treatment (and/or arrest), the question that asks them to provide their worker ID for compensation, and an attention check at the beginning of the survey that asks them to correctly identify a digit displayed in a photo. Participants could not complete the rest of the survey unless they had answered all the required questions. A very small number of participants emailed the lab to indicate that they had made some typos in their answers; in those cases, the answers were corrected manually.

2.4 Data Analytic Method

2.4.1 Data Validity

A total of $N_1 = 554$ participants participated in data collection 1, and $N_2 = 590$ participated in data collection 2, for an original combined total of N = 1144. After data

collection, participants were excluded from analyses in several stages. First, participants were excluded if they did not provide consent or left the consent item blank ($N_1 = 1$, $N_2 = 0$). Next, participants were excluded if they incorrectly identified the digit displayed in a picture or left the item blank ($N_1 = 2$, $N_2 = 2$). Then, participants were excluded if they did not have mental health treatment and/or arrest history or left the item blank for data collection 1 ($N_1 = 96$), and if they did not have mental health treatment history or left the item blank for data collection 2 ($N_2 = 120$).

Next, participants were excluded if they took less than two seconds per item (not including the consent, demographics, initial attention check, and worker ID items) to complete the survey ($N_1 = 66$, $N_2 = 85$). Then, participants were excluded if they had more than 50% missing data ($N_1 = 6$, $N_2 = 4$). Next, participants were excluded if they had more than 85% invariant responding on any of the personality scales ($N_1 = 9$, $N_2 = 13$). Finally, participants were excluded if they failed three or more attention checks out of five, not including the initial digit attention check ($N_1 = 4$, $N_2 = 3$). After exclusions, $N_1 = 370$ remained for data collection 1, and $N_2 = 363$ remained for data collection 2, for a final combined total of N = 733.

2.4.2 Participants

Sample 1. After data cleaning, sample 1 had a final sample size of N = 370. The average age of the participants was 40.39 years. The sample was 55.4% female, 43% male, and 0.8% non-binary, with 92.4% of the participants identifying as cisgender and 1.6% identifying as transgender. The sample was 77.8% white, 10.8% Black/African American, 5.1% Hispanic/Latino, 3.2% Asian, 0.5% American Indian/Alaskan Native, and 0.3% Native Hawaiian/Pacific Islander. With respect to marital status, 44.3% of the

sample was married, 33% single, 11.9% cohabitating, 7.8% divorced, and 1.6% widowed. With respect to income, 84.4% of the sample earned \$99,999 or less, while 15.1% of the sample earned \$100,000 or more. With respect to education, 70.1% of the sample had attended some college or earned an associate or bachelor's degree, 13.3% had earned graduate degrees, 13% had earned a high school education or less, and 3.5% had earned a vocational or technical diploma.

With respect to mental health treatment and arrest history, 67% percent of the sample had a history of mental health treatment only, 9.5% of the sample had an arrest history only, and 23.5% of the sample had a history of both mental health treatment and arrest. With respect to treatment, 71.9% of the sample had received treatment for depression, 67% for anxiety, 14.4% for alcohol use, 12.7% for a personality disorder, 11.1% for substance use, and 3.3% for psychosis. Percentages may not sum to 100% because participants were able to select multiple options for their treatment purpose. Most participants had received treatment recently; 34% of the sample reported receiving treatment currently, while 21.1% received treatment one year ago. Additionally, participants were able to indicate other options besides the ones given. With respect to medication, 75.4% of the sample reported a history of taking medication for psychological purposes; of those with a medication history, 60.9% reported taking medication currently.

With respect to criminal history, 26.2% reported receiving a misdemeanor, 9.7% a felony, and 6.5% of the sample an infraction; 12.2% of the sample had been in trouble for drugs, 8.1% for theft, 5.7% for assault, 3% for fraud, and 0.8% for accidental death. Percentages may not sum to 100% because participants were able to select more than one

option for type of punishment (e.g., infraction, misdemeanor, felony) and type of crime (e.g., theft, assault, drugs, fraud, death). Additionally, participants were able to indicate other options besides the ones given. With respect to incarceration history, 20% percent of the sample indicated that they had spent time in a correctional facility; of those with an incarceration history, 74.3% had spent less than one year in the facility.

Sample 2. After data cleaning, sample 2 had a final sample size of N = 363. The average age of the participants was 39.57 years. The sample was 62% female and 37.2% male, with 92% of the participants identifying as cisgender and 2.2% identifying as transgender. The sample was 74.7% white, 9.9% Black/African American, 5.5% Hispanic/Latino, 5.2% Asian, 0.8% American Indian/Alaskan Native, and 0.3% Native Hawaiian/Pacific Islander. With respect to marital status, 37.5% of the sample was married, 41.6% single, 8.5% cohabitating, 9.9% divorced, and 1.4% widowed. With respect to income, 84.8% of the sample earned \$99,999 or less, while 14.7% of the sample earned \$100,000 or more. With respect to education, 66.4% of the sample had attended some college or earned an associate or bachelor's degree, 15.5% had earned graduate degrees, 13% had earned a high school education or less, and 4.1% had earned a vocational or technical diploma.

All participants in the sample had a history of mental health treatment (as that was a requirement to participate in the study): 79.1% of the sample had received treatment for depression, 75.5% for anxiety, 17.9% for a personality disorder, 9.9% for substance use, and 9.6% for alcohol use. Percentages do not sum to 100% because participants were able to select multiple options for their treatment purpose. Most participants had received treatment recently; 38.3% of the sample reported receiving treatment currently, while

21.8% received treatment one year ago. With respect to medication, 79.1% of the sample reported a history of taking medication for psychological purposes; of those with a medication history, 59.6% reported taking medication currently.

2.4.3 Hierarchical Regression

To test whether FFMPD measures (i.e., EPA, FFHI, FFDI, FFOCI) exhibited incremental validity over the PID-5 in capturing variance in symptom measures of personality disorders (i.e., TriPM, PPI-R, SNAP, MCMI-III), several hierarchical regression models were run.

To assess whether the EPA demonstrated incremental validity over the PID-5 psychopathy subscales in capturing variance in symptom measures of psychopathy, six hierarchical models were run. There were three types of models, each of which was conducted for two dependent variables. For the first type of model, the total sum of the subscale scores for the PID-5 psychopathy scales was entered at Step 1 and the total sum of the EPA subscales was entered at Step 2. For the second type of model, all the individual PID-5 psychopathy scales were entered at Step 1 and all the individual PID-5 psychopathy scales were entered at Step 1 and the individual PID-5 psychopathy scales were entered at Step 2. For the third type of model, all the individual PID-5 psychopathy scales were entered at Step 1 and the neuroticism and extraversion EPA subscales were entered at Step 2. Each of the three models was run once with the Tri-PM total score as dependent variable, and again with the PPI-R as the dependent variable. The significance of the ΔR^2 in Step 2 compared to Step 1 was assessed in each model to determine whether the EPA had incremental validity over the PID-5 in capturing variance in the TriPM and the PPI-R.

To assess whether the FFHI demonstrated incremental validity over the PID-5 HPD subscales in capturing variance in symptom measures of HPD, six hierarchical models were run. There were three types of models, each of which was conducted for two dependent variables. For the first type of model, the total sum of the subscale scores for the PID-5 HPD scales was entered at Step 1 and the total sum of the FFHI subscales was entered at Step 2. For the second type of model, all the individual PID-5 HPD scales were entered at Step 1 and all the individual FFHI subscales were entered at Step 2. For the third type of model, all the individual PID-5 HPD scales were entered at Step 1 and the extraversion FFHI subscales were entered at Step 2. Each of the three models was run once with the SNAP HPD items total score as dependent variable, and again with the MCMI-III HPD items as the dependent variable. The significance of the ΔR^2 in Step 2 compared to Step 1 was assessed in each model to determine whether the FFHI had incremental validity over the PID-5 in capturing variance in the SNAP and the MCMI-III.

To assess whether the FFDI demonstrated incremental validity over the PID-5 DPD subscales in capturing variance in symptom measures of DPD, six hierarchical models were run. There were three types of models, each of which was conducted for two dependent variables. For the first type of model, the total sum of the subscale scores for the PID-5 DPD scales was entered at Step 1 and the total sum of the FFDI subscales was entered at Step 2. For the second type of model, all the individual PID-5 DPD scales were entered at Step 1 and all the individual FFDI subscales were entered at Step 2. For the third type of model, all the individual PID-5 DPD scales were entered at Step 1 and the agreeableness FFDI subscales were entered at Step 2. Each of the three models was run once with the SNAP DPD items total score as dependent variable, and again with the

MCMI-III DPD items as the dependent variable. The significance of the ΔR^2 in Step 2 compared to Step 1 was assessed in each model to determine whether the FFDI had incremental validity over the PID-5 in capturing variance in the SNAP and the MCMI-III.

Finally, to assess whether the FFOCI demonstrated incremental validity over the PID-5 OCPD subscales in capturing variance in symptom measures of OCPD, six hierarchical models were run. There were three types of models, each of which was conducted for two dependent variables. For the first type of model, the total sum of the subscale scores for the PID-5 OCPD scales was entered at Step 1 and the total sum of the FFOCI subscales was entered at Step 2. For the second type of model, all the individual PID-5 OCPD scales were entered at Step 1 and all the individual FFOCI subscales were entered at Step 2. For the third type of model, all the individual PID-5 OCPD scales were entered at Step 1 and the conscientiousness FFOCI subscales were entered at Step 2. Each of the three models was run once with the SNAP OCPD items total score as dependent variable, and again with the MCMI-III OCPD items as the dependent variable. The significance of the ΔR^2 in Step 2 compared to Step 1 was assessed in each model to determine whether the FFOCI had incremental validity over the PID-5 in capturing variance in the SNAP and the MCMI-III.

CHAPTER 3. RESULTS

3.1 Bivariate Correlations

In general, different measures of the same construct converged strongly. However, there was weaker convergence in some cases, particularly for the MCMI. See all bivariate correlations in Tables 1-6.

Psychopathy. The PID-5 psychopathy total score correlated strongly with the EPA ($r = .88, p \le .01$) as well as both dependent variables (TriPM $r = .90, p \le .01$; PPI-R $r = .88, p \le .01$). The EPA also correlated strongly with both dependent variables (TriPM $r = .93, p \le .01$; PPI-R $r = .90, p \le .01$). Finally, the two dependent variables correlated strongly with each other ($r = .91, p \le .01$).

HPD. The PID-5 HPD total score correlated strongly with the FFHI ($r = .84, p \le .01$) and the SNAP HPD ($r = .86, p \le .01$). The FFHI also correlated strongly with the SNAP HPD ($r = .87, p \le .01$). However, the MCMI-III HPD did not correlate as strongly with any of the variables (PID-5 $r = .12, p \le .05$; FFHI $r = .25, p \le .01$; SNAP HPD $r = .11, p \le .05$).

DPD. The PID-5 DPD total score correlated strongly with the FFDI ($r = .87, p \le .01$) as well as both dependent variables (SNAP DPD $r = .85, p \le .01$; MCMI-III DPD $r = .86, p \le .01$). The FFDI also correlated strongly with both dependent variables (SNAP DPD $r = .89, p \le .01$; MCMI-III DPD $r = .91, p \le .01$). Finally, the two dependent variables correlated strongly with each other ($r = .87, p \le .01$).

OCPD. The PID-5 OCPD total score correlated strongly with the FFOCI (r = .53, $p \le .01$) and the SNAP OCPD (r = .63, $p \le .01$). The FFOCI also correlated strongly with both dependent variables (SNAP OCPD r = .80, $p \le .01$; MCMI-III OCPD r = .59, $p \le .01$). However, the two dependent variables did not correlate as strongly with each other (r = .26, $p \le .01$). Additionally, there was a small negative correlation between the PID-5 OCPD score and the MCMI-III OCPD score (r = .15, $p \le .01$).

3.2 Regressions: Psychopathy

Psychopathy total scores. For the first regression model (see Table 7), the total sum of the subscale scores for the PID-5 psychopathy scales was entered at Step 1, the total sum of the subscale scores for each of the EPA subscales was entered at Step 2, and the Tri-PM total score was the dependent variable. The ΔR^2 was .82 ($p \le .001$) at Step 1 and .07 ($p \le .001$) at Step 2. In Step 2, both the sum of PID-5 psychopathy subscale scores ($\beta = .40, p \le .001$) and the sum of EPA subscale scores ($\beta = .58, p \le .001$) were significant.

For the second model (see Table 7), the total sum of the subscale scores for each of the PID-5 psychopathy scales was entered at Step 1, the total sum of the subscale scores for the EPA subscales was entered at Step 2, and the PPI-R total score was the dependent variable. The ΔR^2 was .80 ($p \le .001$) at Step 1 and .06 ($p \le .001$) at Step 2. In Step 2, both the sum of PID-5 psychopathy subscale scores ($\beta = .42, p \le .001$) and the sum of EPA subscale scores ($\beta = .54, p \le .001$) were significant.

All EPA subscales. For the third regression model (see Table 8), all the individual PID-5 psychopathy scales were entered at Step 1, all the individual EPA subscales were entered at Step 2, and the Tri-PM total score was the dependent variable. The ΔR^2 was .88 $(p \le .001)$ at Step 1 and .05 $(p \le .001)$ at Step 2. In Step 2, several PID-5 subscales had significant betas: the PID-5 Manipulativeness subscale ($\beta = .12, p \le .01$), the PID-5 Callousness subscale ($\beta = .11, p \le .05$), the PID-5 Impulsivity subscale ($\beta = .14, p \le .01$), the PID-5 Irresponsibility subscale ($\beta = .16, p \le .001$), and the (reverse-scored) PID-5 Anxiousness subscale ($\beta = .11, p \le .05$). Additionally, several EPA subscales had significant betas: the EPA Oppositional subscale ($\beta = .09, p \le .05$), the EPA Self-

Assurance subscale ($\beta = .15, p \le .001$), and the EPA Invulnerability subscale ($\beta = .14, p \le .001$). All other subscale betas were insignificant.

For the fourth regression model (see Table 8), all the individual PID-5 psychopathy scales were entered at Step 1, all the individual EPA subscales were entered at Step 2, and the PPI-R total score was the dependent variable. The ΔR^2 was .86 ($p \le$.001) at Step 1 and .06 ($p \le$.001) at Step 2. In Step 2, several PID-5 subscales had significant betas: the PID-5 Risk Taking subscale ($\beta = .25, p \le .001$), the PID-5 Attention Seeking subscale ($\beta = .09, p \le .05$), and the (reverse-scored) PID-5 Anxiousness subscale ($\beta = .13, p \le .01$). Additionally, several EPA subscales had significant betas: the EPA Distrust subscale ($\beta = .08, p \le .05$), the EPA Coldness subscale ($\beta = .10, p \le .01$), the EPA Self-Contentment subscale ($\beta = -.08, p \le .05$), the EPA Self-Assurance subscale ($\beta = .13, p \le .01$), and the EPA Invulnerability subscale ($\beta = .12, p \le .01$). All other subscale betas were insignificant.

EPA neuroticism and extraversion subscales. For the fifth regression model (see Table 9), all the individual PID-5 psychopathy scales were entered at Step 1, the neuroticism and extraversion EPA subscales were entered at Step 2, and the Tri-PM total score was the dependent variable. The ΔR^2 was .88 ($p \le .001$) at Step 1 and .03 ($p \le .001$) at Step 2. In Step 2, several PID-5 subscales had significant betas: the PID-5 Manipulativeness subscale ($\beta = .09, p \le .05$), the PID-5 Callousness subscale ($\beta = .24, p \le .001$), the PID-5 Hostility subscale ($\beta = .08, p \le .05$), the PID-5 Impulsivity subscale ($\beta = .14, p \le .01$), the PID-5 Irresponsibility subscale ($\beta = .14, p \le .001$), the (reverse-scored) PID-5 Anxiousness subscale ($\beta = .13, p \le .01$), and the (reverse-scored) PID-5 Withdrawal subscale ($\beta = -.09, p \le .01$). Additionally, several EPA subscales had

significant betas: the EPA Self-Assurance subscale ($\beta = .17, p \le .001$), the EPA Invulnerability subscale ($\beta = .10, p \le .01$), and the EPA Thrill-Seeking subscale ($\beta = .18, p \le .001$). All other subscale betas were insignificant.

For the sixth and final regression model (see Table 9), all the individual PID-5 psychopathy scales were entered at Step 1, the neuroticism and extraversion EPA subscales were entered at Step 2, and the PPI-R total score was the dependent variable. The ΔR^2 was .85 ($p \le .001$) at Step 1 and .04 ($p \le .001$) at Step 2. In Step 2, several PID-5 subscales had significant betas: the PID-5 Callousness subscale ($\beta = .22, p \le .001$), the PID-5 Deceitfulness subscale ($\beta = .15, p \le .01$), the PID-5 Risk Taking subscale ($\beta = .24, p \le .001$), the PID-5 Impulsivity subscale ($\beta = .11, p \le .05$), the (reverse-scored) PID-5 Anxiousness subscale ($\beta = .12, p \le .01$), and the (reverse-scored) PID-5 Withdrawal subscale ($\beta = .09, p \le .01$). Additionally, the EPA Self-Assurance subscale ($\beta = .16, p \le .001$), the EPA Invulnerability subscale ($\beta = .08, p \le .05$), the EPA Dominance subscale ($\beta = .11, p \le .01$), and the EPA Thrill-Seeking subscale ($\beta = .11, p \le .05$) had significant betas. All other subscale betas were insignificant.

Summary. In sum, all six psychopathy regression models had a significant F change ($p \le .001$) at Step 1 (i.e., PID-5 psychopathy scales) and Step 2 (i.e., different subsets of EPA subscales) in the hierarchical regression models. These results indicated that measures that include items for maladaptive variants of low neuroticism and high extraversion (i.e., the EPA) better capture the maladaptive personality traits of psychopathy. Additionally, results replicated across two symptom measures of psychopathy (i.e., Tri-PM and PPI-R).

3.3 Regressions: Histrionic Personality Disorder

Histrionic personality disorder total scores. For the first regression model (see Table 10), the total sum of the PID-5 HPD scales was entered at Step 1, the total sum of the FFHI subscales was entered at Step 2, and the SNAP HPD total score was the dependent variable. The ΔR^2 was .75 ($p \le .001$) at Step 1 and .08 ($p \le .001$) at Step 2. In Step 2, both the sum of PID-5 HPD subscale scores ($\beta = .45$, $p \le .001$) and the sum of FFHI subscale scores ($\beta = .50$, $p \le .001$) were significant.

For the second model (see Table 10), the total sum of the PID-5 HPD scales was entered at Step 1, the total sum of the FFHI subscales was entered at Step 2, and the MCMI-III HPD total score was the dependent variable. The ΔR^2 was .02 ($p \le .05$) at Step 1 and .08 ($p \le .001$) at Step 2. In Step 2, both the sum of PID-5 HPD subscale scores ($\beta =$ -.29, $p \le .01$) and the sum of FFHI subscale scores ($\beta = .51$, $p \le .001$) were significant.

All FFHI subscales. For the third regression model (see Table 11), all the individual PID-5 HPD scales were entered at Step 1, all the individual FFHI subscales were entered at Step 2, and the SNAP HPD total score was the dependent variable. The ΔR^2 was .75 ($p \le .001$) at Step 1 and .10 ($p \le .001$) at Step 2. In Step 2, both the PID-5 Attention Seeking subscale ($\beta = .27, p \le .001$) and the PID-5 Emotional Lability subscale ($\beta = .12, p \le .05$) had significant betas. Additionally, several FFHI subscales had significant betas: the FFHI Neediness for Attention subscale ($\beta = .09, p \le .05$), the FFHI Rapidly Shifting Emotions subscale ($\beta = .29, p \le .001$), the FFHI Social Butterfly subscale ($\beta = .13, p \le .01$), the FFHI Touchy Feely subscale ($\beta = .11, p \le .01$), and the FFHI Disorderly subscale ($\beta = .08, p \le .05$). All other subscale betas were insignificant.

For the fourth regression model (see Table 11), all the individual PID-5 HPD scales were entered at Step 1, all the individual FFHI subscales were entered at Step 2,

and the MCMI-III HPD total score was the dependent variable. The ΔR^2 was .40 ($p \le .001$) at Step 1 and .28 ($p \le .001$) at Step 2. In Step 2, the only PID-5 subscale with a significant beta was the PID-5 Emotional Lability subscale ($\beta = -.21, p \le .05$). Additionally, several FFHI subscales had significant betas: the FFHI Neediness for Attention subscale ($\beta = -.14, p \le .05$), the FFHI Intimacy Seeking subscale ($\beta = .30, p \le .001$), the FFHI Attention Seeking subscale ($\beta = .59, p \le .001$), the FFHI Social Butterfly subscale ($\beta = .23, p \le .001$), and the FFHI Romantic Fantasies subscale ($\beta = -.27, p \le .001$). All other subscale betas were insignificant.

FFHI extraversion subscales. For the fifth regression model (see Table 12), all the individual PID-5 HPD scales were entered at Step 1, the extraversion FFHI subscales were entered at Step 2, and the SNAP HPD total score was the dependent variable. The ΔR^2 was .73 ($p \le .001$) at Step 1 and .06 ($p \le .001$) at Step 2. In Step 2, both the PID-5 Attention Seeking subscale ($\beta = .24, p \le .001$) and the PID-5 Emotional Lability subscale ($\beta = .49, p \le .001$) had significant betas. Additionally, two FFHI subscales had significant betas: the FFHI Flirtatious subscale ($\beta = .18, p \le .001$) and the FFHI Social Butterfly subscale ($\beta = .17, p \le .01$). All other subscale betas were insignificant.

For the sixth and final regression model (see Table 12), all the individual PID-5 HPD scales were entered at Step 1, the extraversion FFHI subscales were entered at Step 2, and the MCMI-III HPD total score was the dependent variable. The ΔR^2 was .40 ($p \le$.001) at Step 1 and .18 ($p \le .001$) at Step 2. In Step 2, the only PID-5 subscale with a significant beta was the PID-5 Emotional Lability subscale ($\beta = ..45$, $p \le .001$). Additionally, the FFHI Intimacy Seeking subscale ($\beta = .24$, $p \le .001$), the FFHI Attention Seeking subscale ($\beta = .64$, $p \le .001$), the FFHI Flirtatious subscale ($\beta = ..16$, $p \le .05$), and the FFHI Social Butterfly subscale ($\beta = .20, p \le .001$) were all significant. The PID-5 Attention Seeking subscale was the only subscale with an insignificant beta.

Summary. In sum, all six HPD regression models had a significant F change ($p \le$.05) at Step 1 (i.e., PID-5 HPD scales) and Step 2 (i.e., different subsets of FFHI subscales) in the hierarchical regression models. These results indicated that measures that include scales to assess for maladaptive extraversion (i.e., the FFHI) better capture the maladaptive personality traits of HPD. Additionally, results replicated across two symptom measures of HPD (i.e., SNAP and MCMI-III).

3.4 Regressions: Dependent Personality Disorder

Dependent personality disorder total scores. For the first regression model (see Table 13), the total sum of the PID-5 DPD scales was entered at Step 1, the total sum of the FFDI subscales was entered at Step 2, and the SNAP DPD total score was the dependent variable. The ΔR^2 was .72 ($p \le .001$) at Step 1 and .10 ($p \le .001$) at Step 2. In Step 2, both the sum of PID-5 DPD subscale scores ($\beta = .29, p \le .001$) and the sum of FFDI subscale scores ($\beta = .64, p \le .001$) were significant.

For the second model (see Table 13), the total sum of the PID-5 DPD scales was entered at Step 1, the total sum of the FFDI subscales was entered at Step 2, and the MCMI-III DPD total score was the dependent variable. The ΔR^2 was .76 ($p \le .001$) at Step 1 and .10 ($p \le .001$) at Step 2. In Step 2, both the sum of PID-5 DPD subscale scores ($\beta = .31, p \le .001$) and the sum of FFDI subscale scores ($\beta = .64, p \le .001$) were significant.

All FFDI subscales. For the third regression model (see Table 14), all of the individual PID-5 DPD scales were entered at Step 1, all of the individual FFDI subscales

were entered at Step 2, and the SNAP DPD total score was the dependent variable. The ΔR^2 was .77 ($p \le .001$) at Step 1 and .10 ($p \le .001$) at Step 2. In Step 2, the PID-5 Submissiveness subscale ($\beta = .17, p \le .001$) and the PID-5 Separation Insecurity subscale ($\beta = .18, p \le .001$) had significant betas. Additionally, several FFDI subscales had significant betas: the FFDI Shamefulness subscale ($\beta = .16, p \le .001$), the FFDI Intimacy Needs subscale ($\beta = .15, p \le .001$), the FFDI Self-Effacing subscale ($\beta = ..11, p \le .01$), the FFDI Ineptitude subscale ($\beta = .15, p \le .01$), and the FFDI Negligence subscale ($\beta = .10, p \le .01$). All other subscale betas were insignificant.

For the fourth regression model (see Table 14), all the individual PID-5 DPD scales were entered at Step 1, all of the individual FFDI subscales were entered at Step 2, and the MCMI-III DPD total score was the dependent variable. The ΔR^2 was .78 ($p \le .001$) at Step 1 and .10 ($p \le .001$) at Step 2. In Step 2, the PID-5 Submissiveness subscale ($\beta = .14, p \le .001$) and the PID-5 Separation Insecurity subscale ($\beta = .23, p \le .001$) had significant betas. These were the same PID-5 subscales that were significant in the previous model. Additionally, several FFDI subscales had significant betas: the FFDI Pessimism subscale ($\beta = .19, p \le .001$), the FFDI Negligence subscale ($\beta = .14, p \le .001$), and the FFDI Subservience subscale ($\beta = .18, p \le .001$). All other subscale betas were insignificant.

FFDI agreeableness subscales. For the fifth regression model (see Table 15), all the individual PID-5 DPD scales were entered at Step 1, the agreeableness FFDI subscales were entered at Step 2, and the SNAP DPD total score was the dependent variable. The ΔR^2 was .78 ($p \le .001$) at Step 1 and .03 ($p \le .001$) at Step 2. In Step 2, all the PID-5 DPD subscales had significant betas: the PID-5 Submissiveness subscale ($\beta =$

.14, $p \le .001$), the PID-5 Anxiousness subscale ($\beta = .22, p \le .001$), and the PID-5 Separation Insecurity subscale ($\beta = .44, p \le .001$). Additionally, two FFDI subscales had significant betas: the FFDI Gullibility subscale ($\beta = .11, p \le .01$) and the FFDI Subservience subscale ($\beta = .20, p < .001$). All other subscale betas were insignificant.

For the sixth and final regression model (see Table 15), all the individual PID-5 DPD scales were entered at Step 1, the agreeableness FFDI subscales were entered at Step 2, and the MCMI-III DPD total score was the dependent variable. The ΔR^2 was .77 ($p \le .001$) at Step 1 and .05 ($p \le .001$) at Step 2. In Step 2, all the PID-5 DPD subscales had significant betas: the PID-5 Submissiveness subscale ($\beta = .13, p \le .01$), the PID-5 Anxiousness subscale ($\beta = .28, p \le .001$), and the PID-5 Separation Insecurity subscale (β = .36, $p \le .001$). Additionally, all but one of the FFDI subscales had significant betas: the FFDI Gullibility subscale ($\beta = .11, p \le .001$), the FFDI Self-Effacing subscale ($\beta = .16, p \le .001$), and the FFDI Subservience subscale ($\beta = .20, p \le .001$). The FFDI Selflessness subscale was the only subscale with an insignificant beta.

Summary. In sum, all six DPD regression models had a significant F change ($p \le$.001) at Step 1 (i.e., PID-5 DPD scales) and Step 2 (i.e., different subsets of FFDI subscales) in the hierarchical regression models. These results indicated that measures that include scales to assess for maladaptive agreeableness (i.e., the FFDI) better capture the maladaptive personality traits of DPD. Additionally, results replicated across two symptom measures of HPD (i.e., SNAP and MCMI-III).

3.5 Regressions: Obsessive-Compulsive Personality Disorder

Obsessive-compulsive personality disorder total scores. For the first regression model (see Table 16), the total sum of the PID-5 OCPD scales was entered at Step 1, the

total sum of the FFOCI subscales was entered at Step 2, and the SNAP OCPD total score was the dependent variable. The ΔR^2 was .38 ($p \le .001$) at Step 1 and .31 ($p \le .001$) at Step 2. In Step 2, both the sum of PID-5 OCPD subscale scores ($\beta = .27, p \le .001$) and the sum of FFOCI subscale scores ($\beta = .66, p \le .001$) were significant.

For the second model (see Table 16), the total sum of the PID-5 OCPD scales was entered at Step 1, the total sum of the FFOCI subscales was entered at Step 2, and the MCMI-III OCPD total score was the dependent variable. The ΔR^2 was .02 ($p \le .05$) at Step 1 and .60 ($p \le .001$) at Step 2. In Step 2, both the sum of PID-5 OCPD subscale scores ($\beta = -.62$, $p \le .001$) and the sum of FFOCI subscale scores ($\beta = .91$, $p \le .001$) were significant.

All FFOCI subscales. For the third regression model (see Table 17), all the individual PID-5 OCPD scales were entered at Step 1, all the individual FFOCI subscales were entered at Step 2, and the SNAP OCPD total score was the dependent variable. The ΔR^2 was .54 ($p \le .001$) at Step 1 and .23 ($p \le .001$) at Step 2. In Step 2, the only PID-5 subscale with a significant beta was the Perseveration subscale ($\beta = .20, p \le .001$). Several FFOCI subscales had significant betas: the FFOCI Dogmatism subscale ($\beta = .18, p \le .001$), the FFOCI Perfectionism subscale ($\beta = .24, p \le .001$), the FFOCI Perfectionism subscale ($\beta = .24, p \le .001$), the FFOCI Punctiliousness subscale ($\beta = .15, p \le .05$), the FFOCI Workaholism subscale ($\beta = .26, p \le .001$), the FFOCI Doggedness subscale ($\beta = .18, p \le .01$), and the FFOCI Ruminative Deliberation subscale ($\beta = .19, p \le .001$). All other subscale betas were insignificant.

For the fourth regression model (see Table 17), all the individual PID-5 OCPD scales were entered at Step 1, all the individual FFOCI subscales were entered at Step 2, and the MCMI-III OCPD total score was the dependent variable. The ΔR^2 was .36 ($p \le$

.001) at Step 1 and .41 ($p \le .001$) at Step 2. In Step 2, the only PID-5 subscale with a significant beta was the Perseveration subscale ($\beta = -.22, p \le .001$). This was the same PID-5 subscale that was significant in the previous model. Several FFOCI subscales had significant betas: the FFOCI Excessive Worry subscale ($\beta = -.13, p \le .01$), the FFOCI Risk-Aversion subscale ($\beta = .33, p \le .001$), the FFOCI Punctiliousness subscale ($\beta = .22, p \le .001$), the FFOCI Doggedness subscale ($\beta = .28, p \le .001$), and the FFOCI Ruminative Deliberation subscale ($\beta = .16, p \le .01$). All other subscale betas were insignificant.

FFOCI conscientiousness subscales. For the fifth regression model (see Table 18), all the individual PID-5 OCPD scales were entered at Step 1, the conscientiousness FFOCI subscales were entered at Step 2, and the SNAP OCPD total score was the dependent variable. The ΔR^2 was .55 ($p \le .001$) at Step 1 and .19 ($p \le .001$) at Step 2. In Step 2, all the PID-5 OCPD subscales had significant betas: the PID-5 Rigid Perfectionism subscale ($\beta = .15, p \le .05$), the PID-5 Perseveration subscale ($\beta = .23, p \le .001$), the PID-5 Intimacy Avoidance subscale ($\beta = .08, p \le .05$), and the PID-5 Restricted Affectivity subscale ($\beta = .09, p \le .05$). Additionally, five FFOCI subscales had significant betas: the FFOCI Perfectionism subscale ($\beta = .18, p \le .01$), the FFOCI Punctiliousness subscale ($\beta = .25, p \le .001$), the FFOCI Workaholism subscale ($\beta = .31, p \le .001$), the FFOCI Doggedness subscale ($\beta = .20, p \le .001$), and the FFOCI Ruminative Deliberation subscale ($\beta = .23, p \le .001$). The only subscale with an insignificant beta was the FFOCI Fastidiousness subscale.

For the sixth and final regression model (see Table 18), all the individual PID-5 OCPD scales were entered at Step 1, the conscientiousness FFOCI subscales were entered at Step 2, and the MCMI-III OCPD total score was the dependent variable. The ΔR^2 was .37 ($p \le .001$) at Step 1 and .34 ($p \le .001$) at Step 2. In Step 2, only one of the PID-5 OCPD subscales had a significant beta: the PID-5 Perseveration subscale ($\beta = -.31$, $p \le .001$). Additionally, three FFOCI subscales had significant betas: the FFOCI Punctiliousness subscale ($\beta = .29$, $p \le .001$), the FFOCI Doggedness subscale ($\beta = .31$, $p \le .001$), and the FFOCI Ruminative Deliberation subscale ($\beta = .32$, $p \le .001$). All other subscale betas were insignificant.

Summary. In sum, all six OCPD regression models had a significant F change ($p \le .05$) at Step 1 (i.e., PID-5 OCPD scales) and Step 2 (i.e., different subsets of FFOCI subscales) in the hierarchical regression models. These results indicated that measures that include scales to assess for additional facets of maladaptive conscientiousness besides rigid perfectionism (i.e., the FFOCI) better capture the maladaptive personality traits of OCPD. Additionally, results replicated across two symptom measures of OCPD (i.e., SNAP and MCMI-III).

CHAPTER 4. DISCUSSION

The DSM-5 Section III trait model is, with one notable exception, unipolar in its representation of maladaptive personality structure. The traits opposite to the domains of negative affectivity, detachment, psychoticism, antagonism, and disinhibition are said to be adaptive. There are "healthy, adaptive, and resilient personality traits identified as the polar opposite of traits, emotional stability [opposite to negative affectivity], extraversion [opposite to detachment], lucidity [opposite to psychoticism], agreeableness [opposite to antagonism], and conscientiousness [opposite to disinhibition]" (APA, 2013, p. 773). The one exception is the trait of rigid perfectionism, which was originally within a domain of

compulsivity that was ultimately deleted but was considered by its authors to be opposite to the domain of disinhibition (Krueger et al., 2012; Skodol, 2012).

The purpose of this study was to illustrate the potential value of including maladaptive variants of (low) neuroticism, (high) extraversion, (high) agreeableness, and (high) conscientiousness to provide an improved coverage of psychopathy, HPD, DPD, and OCPD in the AMPD. It was hypothesized that FFMPD measures (i.e., EPA, FFHI, FFDI, FFOCI), which include scales to assess for maladaptive variants of (low) neuroticism, (high) extraversion, (high) agreeableness, and (high) conscientiousness, would obtain incremental validity over the PID-5, the primary measure of the DSM-5 trait model, in accounting for respective personality disorder variance in psychopathy (assessed by the TriPM, and PPI-R) as well as HPD, DPD, and OCPD (each assessed by the SNAP and MCMI-III). Overall, the results indicated that the FFMPD measures demonstrated the expected incremental validity. Thus, the AMPD should perhaps be updated to include maladaptive variants of (low) neuroticism, (high) extraversion, (high) agreeableness, and (high) conscientiousness in order to improve diagnostic accuracy and clinical utility; more specifically, for psychopathy self-assurance and invulnerability (from low neuroticism) and thrill-seeking (from extraversion); for HPD social butterfly (from extraversion); for DPD gullibility and subservience (from agreeableness), and for OCPD ruminative deliberation and punctiliousness (from conscientiousness). These are the FFMPD facets for which the beta weights were both significant and positive across both dependent variables in the third type of model for each PD (i.e., the models that included only those FFMPD subscales that measured the relevant trait(s) for each disorder).

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The original validation studies for the EPA (Lynam et al., 2012), FFHI (Tomiatti et al., 2012), FFDI (Gore et al., 2012), and FFOCI (Samuel et al., 2012) included demonstrations of incremental validity of their scales relative to the measures of the FFM and traditional measures of the respective personality disorders. The derivation studies did not consider incremental validity over the DSM-5 trait model. There have been a few subsequent studies that have demonstrated incremental validity over the DSM-5 trait model. There have been a few subsequent studies that have demonstrated incremental validity over the DSM-5 trait model, but these have been confined to just one personality disorder (e.g., Crego et al., 2018; Gore & Widiger, 2015). The current study is the first and only study to consider incremental validity over the DSM-5 trait model with respect to more than one domain of the FFM, including (low) neuroticism, (high) extraversion, (high) agreeableness, and (high) conscientiousness. Thus, it is unique in that it considers maladaptivity at both poles of each trait domain.

Notably absent from the current study was a consideration of the domain of psychoticism. This reflects the fact that this is the one domain of the DSM-5 trait model which is already aligned with a traditionally or predominantly adaptive pole; that is, high openness (Widiger & Crego, 2019). The DSM-5 trait model is aligned with the FFM poles of high neuroticism, introversion, antagonism, and low conscientiousness, which are the predominantly maladaptive poles for these domains. The DSM-5 domain of psychoticism is an exception. It is aligned with FFM openness, which is the predominantly adaptive pole for this domain (Widiger & Crego, 2019). In addition, although low openness is associated with some of the DSM-IV personality disorders (Lynam & Widiger, 2001; Samuel & Widiger, 2008), this relationship is strikingly weaker than is found for the other personality disorders.

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The following values are taken from the second type of model for each PD (i.e., the models that included all the PD's respective FFMPD subscales). In most cases, the initial proportion of variance accounted for by the PID-5 was substantial. For example, the amount of variance accounted for by the PID-5 in the TriPM and PPI-R was 88% and 86% (respectively), in the SNAP and MCMI-III assessment of DPD it was 77% and 78% (respectively), in the SNAP assessment of HPD it was 75%, and in the SNAP assessment of OCPD it was 54%. The Step 2 ΔR^2 values were comparatively smaller in most models; although the FFMPD scales rarely account for a substantial amount of additional variance, these values are meaningful when considered across a large population.

In contrast, the PID-5 accounted for only 40% of the initial variance in HPD assessed by the MCMI-III and only 36% of the initial variance in OCPD assessed by the MCMI-III. The current study included two alternative measures of the respective personality disorder to determine whether the findings replicated across alternative measures and, indeed, the MCMI-III assessment of some personality disorders is relatively unique (Miller, Few, & Widiger, 2012). The MCMI-III assessment of OCPD is particularly unique, as its scale includes a number of adaptive items (see also Table 17).

The small ΔR^2 value (.40, $p \le .001$) in Step 1 of the HPD model may be because the PID-5 HPD total score did not correlate strongly with the MCMI-III total score (r =.12, $p \le .05$). The Step 2 ΔR^2 value (.28, $p \le .001$) was also small in the HPD model. For Step 2, the FFHI total score did not correlate as strongly with the MCMI-III HPD total score (r = .25, $p \le .01$) as it did with the PID-5 HPD total score (r = .84, $p \le .01$) and the SNAP HPD total score (r = .87, $p \le .01$). Thus, the PID-5 and the FFHI could not account for much of the variance in the MCMI-III. In contrast to the HPD model using MCMI-III as the dependent variable, the comparable HPD model in the analysis (i.e., with SNAP as the dependent variable) had a much larger Step 1 ΔR^2 value (.75, $p \le .001$).

Step 1 of the OCPD model also had a small ΔR^2 value (.36, $p \le .001$). Interestingly, the Step 2 ΔR^2 value (.41, $p \le .001$) was larger than the Step 1 ΔR^2 value. Comparable models (i.e., the psychopathy and DPD models using the MCMI-III as the dependent variable) had much higher Step 1 ΔR^2 values (i.e., more than .7), while the comparable HPD model had a similar Step 1 ΔR^2 value (.40, $p \le .001$). The comparable OCPD model in the analysis (i.e., with SNAP as the dependent variable) had a larger Step 1 ΔR^2 value (.54, $p \le .001$). Interestingly, the FFOCI correlated strongly with the PID-5 OCPD total score (r = .53, $p \le .01$), the SNAP OCPD total score (r = .80, $p \le .01$), and the MCMI-III OCPD total score (r = .59, $p \le .01$). However, the PID-5 OCPD total score and the MCMI-III OCPD total score had a small negative correlation (r = ..15, $p \le .01$). The negative correlation explains why the PID-5 OCPD score could not account for much variance in the model using the MCMI-III as the dependent variable.

Additionally, some regression models returned negative beta weights. Only significant negative beta weights for traits of interest in the FFMPD scales (i.e., low neuroticism and high extraversion for psychopathy, high extraversion for HPD, high agreeableness for DPD, and high conscientiousness for OCPD) are discussed here.

Psychopathy. The EPA Self-Contentment subscale had a significant negative beta weight ($\beta = -.08$, $p \le .05$) in the regression model using all EPA subscales and the PPI-R as the dependent variable. The beta weight was also negative ($\beta = -.04$) in the model using all EPA subscales and the TriPM as the dependent variable, although this beta weight was insignificant (see Table 8). These results did not replicate in the next analysis,

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in which only EPA subscales related to low neuroticism and high extraversion were included. The EPA Self-Contentment beta weight ($\beta = -.03$) in the model with the TriPM as the dependent variable was negative but insignificant, as was the EPA Self-Contentment beta weight ($\beta = -.07$) in the model with the PPI-R as the dependent variable (see Table 9). The lack of replication and small beta weight values indicate that this finding is not notable.

HPD. The FFHI Flirtatious subscale had a significant negative beta weight ($\beta = ...$.16, $p \le .05$) in the regression model using only FFHI extraversion subscales and the MCMI-III as the dependent variable. The beta weight was positive ($\beta = ...$, $p \le .001$) in the regression model using only FFHI extraversion subscales and the SNAP as the dependent variable (see Table 12). The Flirtatious subscale's significant strong bivariate correlation ($r = .69, p \le .01$) with the SNAP HPD total score explains the positive beta weight; that is, it would be surprising for two strongly positively correlated variables to return negative beta weights when included in the same regression model. On the other hand, its significant weak bivariate correlation ($r = .35, p \le .01$) with the MCMI-III HPD total score makes it possible for a negative beta weight to occur. Additionally, the size of the beta weights is marginal.

Finally, these results did not replicate in the previous analysis. The FFHI Flirtatious subscale had an insignificant negative beta weight ($\beta = -.11$) in the regression model using all FFHI subscales and the MCMI-III as the dependent variable. The beta weight was positive and insignificant ($\beta = .05$) in the regression model using all FFHI subscales and the SNAP as the dependent variable (see Table 11). **DPD.** The FFDI Self-Effacing subscale had a significant negative beta weight ($\beta = ..11, p \le .01$) in the regression model using all FFDI subscales and the SNAP as the dependent variable. The beta weight was positive but insignificant ($\beta = .02$) in the model using all FFDI subscales and the MCMI as the dependent variable (see Table 14). These results did not replicate in the next analysis. The FFDI Self-Effacing subscale had an insignificant positive beta weight ($\beta = .01$) in the regression model using only agreeableness FFDI subscales and the SNAP as the dependent variable. The beta weight was positive and significant ($\beta = .16, p \le .001$) in the regression model using only agreeableness FFDI subscales and the MCMI-III as the dependent variable (see Table 15).

OCPD. The FFOCI Doggedness subscale had a significant negative beta weight $(\beta = -.18, p \le .01)$ in the regression model using all FFDI subscales and the SNAP as the dependent variable. The beta weight was positive and significant ($\beta = .28, p \le .001$) in the model using all FFOCI subscales and the MCMI-III as the dependent variable (see Table 17). These results replicate in the next analysis. The FFOCI Doggedness subscale had a significant negative beta weight ($\beta = .20, p \le .001$) in the regression model using only conscientiousness FFOCI subscales and the SNAP as the dependent variable. The beta weight was positive and significant ($\beta = .31, p \le .001$) in the model using only conscientiousness FFOCI subscales and the MCMI-III as the dependent variable. The beta Weight was positive and significant ($\beta = .31, p \le .001$) in the model using only conscientiousness FFOCI subscales and the MCMI-III as the dependent variable. The beta Weight was positive and significant ($\beta = .31, p \le .001$) in the model using only conscientiousness FFOCI subscales and the MCMI-III as the dependent variable (see Table 18).

The Doggedness subscale's significant strong bivariate correlation ($r = .69, p \le .01$) with the MCMI-III OCPD total score explains the positive beta weight; that is, it would be surprising for two strongly positively correlated variables to return negative

beta weights when included in the same regression model. On the other hand, the significant but weaker bivariate correlation ($r = .38, p \le .01$) with the SNAP OCPD total score makes it possible for a negative beta weight to occur.

It is possible that the negative beta weights are a result of a suppression effect (Hoyle, Lynam, Miller, & Pek, 2023). For example, it is difficult to define what PID-5 Perseveration in the sixth OCPD model ($\beta = -.31, p \le .001$) represents when so many other scales have been controlled for (i.e., PID-5 Rigid Perfectionism, PID-5 Intimacy Avoidance, PID-5 Restricted Affectivity, FFOCI Perfectionism, FFOCI Fastidiousness, FFOCI Punctiliousness, FFOCI Workaholism, FFOCI Doggedness, and FFOCI Ruminative Deliberation). Even when the beta weights in Step 2 of the models are positive, very few are large values. It may appear that these results are thus uninterpretable; however, it is worth reiterating that small values are meaningful when interpreted for large populations.

In sum, the results of the current study suggest that the AMPD trait model be revised to include maladaptive variants of low neuroticism, high extraversion, high agreeableness, and high conscientiousness; more specifically, the traits of self-assurance and invulnerability from low neuroticism, thrill-seeking and social butterfly (from extraversion); gullibility and subservience (from agreeableness), and ruminative deliberation and punctiliousness (from conscientiousness; see Figure 2). These additional traits are necessary if one is to fully account for some of the traditional personality disorders. Alternatively, one might argue that there is little need to account for traits of HPD (e.g., social butterfly) given the presence of very little support for its retention in DSM-5 and concerns about potential gender bias (Blashfield et al., 2012).

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It is also the case that there are relatively fewer maladaptive trait terms for low neuroticism, high extraversion, high agreeableness, and high conscientiousness (Coker et al., 2012). However, to suggest or imply that there are none is incorrect. If the trait model is to provide a truly accurate description of maladaptive trait structure, it should include both poles of all five domains.

CHAPTER 5. LIMITATIONS

There were several limitations in the present study. The first is the use of CloudResearch (formerly TurkPrime) for data collection. Although many precautions were taken to ensure the use of valid data from human participants, it is possible that some invalid data made it through these checkpoints. Nevertheless, the impact of any such problematic results is clearly minimal.

The next limitation is the use of self-report inventories as opposed to structured interviews. However, structured interviews do not exist for many of the scales included in this study. There is a structured interview for the DSM-5 trait model, but not for the FFMPD traits.

Another potential limitation was perhaps the reliance on FFMPD scales, which may not account for all the relevant maladaptive variance in (low) neuroticism, (high) extraversion, (high) agreeableness, and (high) conscientiousness. For example, the SNAP includes maladaptive trait scales beyond the FFMPD scales (e.g., Entitlement for extraversion and Propriety for conscientiousness). In addition, there are further maladaptive traits not included within the FFMPD scales, the SNAP, or other maladaptive trait inventories (e.g., unemotional from low neuroticism, long-winded and blustery from

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extraversion, ingratiating and deceivable from agreeableness, and stringent and tight from conscientiousness; Coker et al., 2012).

CHAPTER 6. CONCLUSION

The DSM-5 trait model in the Alternative Model of Personality Disorders (AMPD) contains unipolar maladaptive traits: negative affectivity, detachment, psychoticism, antagonism, and disinhibition. The AMPD considers the opposite poles of these five domains to be adaptive. However, the opposite poles of these domains can be maladaptive as well. FFMPD measures, which include scales to assess for maladaptive variants of (low) neuroticism, (high) extraversion, (high) agreeableness, and (high) conscientiousness, obtained incremental validity over the PID-5 in accounting for variance in other measures of psychopathy, HPD, DPD, and OCPD. Taken together, these results suggest that maladaptive variants of personality traits that are often considered healthy (e.g., low neuroticism, high extraversion) confer important information about personality disorder symptoms and functioning and should be included in the AMPD. Figure 1 Criterion B of the Alternative Model of Personality Disorder

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| Emotional Lability | Withdrawal | | | |
|-----------------------|------------------------|-------------------------------|-------------------|---------------------|
| Anxiousness | Intimacy Avoidance | | Manipulativeness | |
| Separation Insecurity | Anhedonia | | Deceitfulness | Irresponsibility |
| Submissiveness | Depressivity | Unusual Beliefs & Experiences | Grandiosity | Impulsivity |
| Hostility | Restricted Affectivity | Eccentricity | Attention Seeking | Distractibility |
| Perseveration | Suspiciousness | Perceptual Dysregulation | Callousness | Risk Taking |
| High | High | High | High | High |
| Negative Affectivity | Detachment | Psychoticism | Antagonism | Disinhibition |
| Low | Low | Low | Low | Low |
| | | | | Rigid Perfectionism |

| Emotional Lability | Withdrawal | | | |
|--------------------------|---------------------------|----------------------------------|----------------------|----------------------------|
| Anxiousness | Intimacy Avoidance | | Manipulativeness | |
| Separation Insecurity | Anhedonia | | Deceitfulness | Irresponsibility |
| Submissiveness | Depressivity | Unusual Beliefs & Experiences | Grandiosity | Impulsivity |
| Hostility | Restricted Affectivity | Eccentricity | Attention Seeking | Distractibility |
| Perseveration | Suspiciousness | Perceptual Dysregulation | Callousness | Risk Taking |
| High | High | High | High | High |
| Negative Affectivity | Detachment | Psychoticism | Antagonism | Disinhibition |
| Low | Low | Low | Low | Low |
| Self-Assurance | Thrill-Seeking | | Gullibility | Rigid Perfectionism |
| Invulnerability | Social Butterfly | | Subservience | Ruminative Deliberation |
| | | | | Punctiliousness |

Figure 2 Proposed Additions to the Alternative Model of Personality Disorder

Current AMPD



Proposed Additions

| | PID-5 Psychopathy Total | EPA Total | TriPM Total | PPI-R Total |
|--------------------|-------------------------|------------|----------------|-------------|
| EPA Total | .88** | | | |
| TriPM Total | .90** | .93** | | |
| PPI-R Total | .88** | .90** | .91** | |
| PID-5 HPD Total | .62** | .52** | .54** | .44** |
| FFHI Total | .70** | .59** | .57** | .54** |
| SNAP HPD Total | .60** | .53** | .51** | .46** |
| MCMI-III HPD Total | .40** | .27** | .30** | .38** |
| | PID-5 HPD Total | FFHI Total | SNAP HPD Total | |
| EPA Total | | | | |
| TriPM Total | | | | |
| PPI-R Total | | | | |
| PID-5 HPD Total | | | | |
| FFHI Total | .84** | | | |
| SNAP HPD Total | .86** | .87** | | |
| MCMI-III HPD Total | .12* | .25** | .11* | |

 Table 1 Bivariate Correlations between Psychopathy and HPD Scales

Note. PID-5 = Personality Inventory for the DSM-5. EPA = Elemental Psychopathy Assessment. TriPM = Triarchic Psychopathy Measure. PPI-R = Psychopathic Personality Inventory-Revised. HPD = Histrionic personality disorder. FFHI = Five Factor Histrionic Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III.

Bold = correlation calculated with N < 300.

** $p \le .01$, * $p \le .05$.

| | PID-5 OCPD Total | FFOCI Total | SNAP OCPD Total | MCMI-III OCPD Total |
|---------------------|------------------|-------------|-----------------|---------------------|
| FFOCI Total | .53** | | | |
| SNAP OCPD Total | .63** | .80** | | |
| MCMI-III OCPD Total | 15** | .59** | .26** | |
| PID-5 DPD Total | .43** | .21** | .31** | 30** |
| FFDI Total | .38** | .14* | .28** | 30** |
| SNAP DPD Total | .34** | .13* | .25** | 30** |
| MCMI-III DPD Total | .44** | .11 | .25** | 41** |
| | PID-5 DPD Total | FFDI Total | SNAP DPD Total | |
| FFOCI Total | | | | |
| SNAP OCPD Total | | | | |
| MCMI-III OCPD Total | | | | |
| PID-5 DPD Total | | | | |
| FFDI Total | .87** | | | |
| SNAP DPD Total | .85** | .89** | | |
| MCMI-III DPD Total | .86** | .91** | .87** | |
| | 1' 1' 1 OCDD | 01 | 1 1 1 1 | |

Table 2 Bivariate Correlations between DPD and OCPD Scales

Note. DPD = Dependent personality disorder. OCPD = Obsessive-compulsive personality disorder. PID-5 = Personality Inventory for the DSM-5. FFDI = Five Factor Dependency Inventory. FFOCI = Five Factor Obsessive-Compulsive Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. **Bold** = correlation calculated with N < 300.

** $p \le .01$, * $p \le .05$.

| | PID-5 Psychopathy Total | TriPM Total | PPI-R Total |
|------------------------------|-------------------------|-------------|-------------|
| EPA Unconcern (low N) | .43** | .45** | .55** |
| EPA Self-Contentment (low N) | .22** | .20** | .29** |
| EPA Self-Assurance (low N) | .47** | .43** | .53** |
| EPA Invulnerability (low N) | .26** | .33** | .43** |
| EPA Anger (high N) | .55** | .58** | .45** |
| EPA Urgency (high N) | .50** | .47** | .35** |
| EPA Coldness (low E) | .36** | .48** | .48** |
| EPA Dominance (high E) | .62** | .62** | .63** |
| EPA Thrill-Seeking (high E) | .81** | .83** | .81** |
| EPA Arrogance (A) | .63** | .58** | .58** |
| EPA Distrust (A) | .25** | .37** | .30** |
| EPA Manipulation (A) | .83** | .79** | .75** |
| EPA Self-Centeredness (A) | .70** | .74** | .68** |
| EPA Oppositional (A) | .71** | .77** | .72** |
| EPA Callousness (A) | .67** | .72** | .68** |
| EPA Disobliged (C) | .61** | .62** | .56** |
| EPA Impersistence (C) | .24** | .19** | .13* |
| EPA Rashness (C) | .66** | .63** | .58** |

Note. PID-5 = Personality Inventory for the DSM-5. EPA = Elemental Psychopathy Assessment. TriPM = Triarchic Psychopathy Measure. PPI-R = Psychopathic Personality Inventory-Revised. N = Neuroticism. E = Extraversion. A = Agreeableness. C = Conscientiousness.

Bold = correlation calculated with N < 300.

** $p \le .01$, * $p \le .05$.

| | PID-5 HPD Total | SNAP HPD Total | MCMI-III HPD Total |
|---------------------------------------|-----------------|-----------------------|--------------------|
| FFHI Neediness for Attention (N) | .69** | .69** | 05 |
| FFHI Rapidly Shifting Emotions (N) | .63** | .63** | 36** |
| FFHI Intimacy Seeking (E) | .27** | .26** | .30** |
| FFHI Attention Seeking (E) | .67** | .64** | .57** |
| FFHI Flirtatious (E) | .64** | .69** | .35** |
| FFHI Social Butterfly (E) | .54** | .61** | .41** |
| FFHI Romantic Fantasies (O) | .50** | .55** | 18** |
| FFHI Touchy Feely (O) | .57** | .59** | .07 |
| FFHI Suggestibility (A) | .33** | .29** | .09 |
| FFHI Melodramatic Emotionality (A, E) | .62** | .59** | .45** |
| FFHI Vanity (A) | .58** | .57** | .53** |
| FFHI Disorderly (C) | .42** | .54** | 11 |
| FFHI Impressionistic Thinking (C) | .55** | .63** | 03 |

Note. HPD = Histrionic personality disorder. PID-5 = Personality Inventory for the DSM-5. FFHI = Five Factor Histrionic Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. N = Neuroticism. E = Extraversion. O = Openness. A = Agreeableness. C = Conscientiousness. ** $p \le .01$, * $p \le .05$.

Table 5 Bivariate Correlations between DPD Scales

| | PID-5 DPD Total | SNAP DPD Total | MCMI-III DPD Total |
|--------------------------------|-----------------|----------------|--------------------|
| FFDI Separation Insecurity (N) | .87** | .81** | .79** |
| FFDI Pessimism (N) | .76** | .59** | .73** |
| FFDI Shamefulness (N) | .76** | .74** | .75** |
| FFDI Helplessness (N) | .84** | .82** | .83** |
| FFDI Intimacy Needs (E) | .50** | .58** | .44** |
| FFDI Unassertiveness (E) | .63** | .67** | .69** |
| FFDI Gullibility (A) | .35** | .49** | .45** |
| FFDI Self-Effacing (A) | .68** | .57** | .69** |
| FFDI Subservience (A) | .59** | .68** | .69** |
| FFDI Selflessness (A) | .56** | .58** | .53** |
| FFDI Ineptitude (C) | .77** | .78** | .82** |
| FFDI Negligence (C) | .59** | .66** | .68** |

Note. DPD = Dependent personality disorder. PID-5 = Personality Inventory for the DSM-5. FFDI = Five Factor Dependency Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. N = Neuroticism. E = Extraversion. A = Agreeableness. C = Conscientiousness. ** $p \le .01$, * $p \le .05$. Table 6 Bivariate Correlations between OCPD Scales

| | PID-5 OCPD Total | SNAP OCPD Total | MCMI-III OCPD Total |
|-----------------------------------|------------------|-----------------|---------------------|
| FFOCI Excessive Worry (N) | .35** | .31** | 19** |
| FFOCI Detached Coldness (E) | .55** | .36** | 01 |
| FFOCI Risk-Aversion (E) | .12* | .30** | .54** |
| FFOCI Constricted (O) | .49** | .22** | 12* |
| FFOCI Inflexible (O) | .49** | .53** | .33** |
| FFOCI Dogmatism (O) | .35** | .58** | .34** |
| FFOCI Perfectionism (C) | .35** | .65** | .46** |
| FFOCI Fastidiousness (C) | .37** | .60** | .55** |
| FFOCI Punctiliousness (C) | .27** | .65** | .63** |
| FFOCI Workaholism (C) | .24** | .55** | .49** |
| FFOCI Doggedness (C) | .06 | .38** | .69** |
| FFOCI Ruminative Deliberation (C) | .24** | .54** | .57** |
| | | | |

Note. OCPD = Obsessive-compulsive personality disorder. PID-5 = Personality Inventory for the DSM-5. FFOCI = Five Factor Obsessive-Compulsive Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. N = Neuroticism. E = Extraversion. O = Openness. C = Conscientiousness. ** $p \le .01$, * $p \le .05$.

Table 7 Psychopathy Regression Models with Total Scores

| | Dependent Variables | | | |
|-------------------------|---------------------|--------|--------------|--------|
| | | Tri-PM | | PPI-R |
| Predictor Variables | ΔR^2 | β | ΔR^2 | β |
| Step 1 | .82*** | • | .80*** | |
| PID-5 Psychopathy Total | | .91*** | | .89*** |
| Step 2 | .07*** | | .06*** | |
| PID-5 Psychopathy Total | | .40*** | | .42*** |
| EPA Total | | .58*** | | .54*** |

Note. PID-5 = Personality Inventory for the DSM-5. EPA = Elemental Psychopathy Assessment. TriPM = Triarchic Psychopathy Measure. PPI-R = Psychopathic Personality Inventory-Revised.

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

| | Dependent Variables | | | |
|------------------------------|---------------------------|--------------------|---|--|
| | Tri-PM | PPI-R | | |
| Predictor Variables | $\Delta R^2 \qquad \beta$ | $\Delta R^2 \beta$ | | |
| Step 1 | .88*** | .86*** | | |
| PID-5 Manipulativeness | .27*** | .12* | | |
| PID-5 Callousness | .25*** | .24*** | * | |
| PID-5 Deceitfulness | 06 | .04 | | |
| PID-5 Hostility | .12** | .02 | | |
| PID-5 Risk Taking | .28*** | .40** | * | |
| PID-5 Impulsivity | .08 | .05 | | |
| PID-5 Irresponsibility | .15*** | .05 | | |
| PID-5 Attention Seeking | .03 | .10* | | |
| PID-5 Anxiousness (REVERSE) | .22*** | .27** | * | |
| PID-5 Withdrawal (REVERSE) | 05 | 05 | | |
| Step 2 | .05*** | .06*** | | |
| PID-5 Manipulativeness | .12** | 02 | | |
| PID-5 Callousness | .11* | .10 | | |
| PID-5 Deceitfulness | 02 | .08 | | |
| PID-5 Hostility | 05 | 03 | | |
| PID-5 Risk Taking | .09 | .25** | * | |
| PID-5 Impulsivity | .14** | .10 | | |
| PID-5 Irresponsibility | .16*** | .08 | | |
| PID-5 Attention Seeking | .04 | .09* | | |
| PID-5 Anxiousness (REVERSE) | .11* | .13** | | |
| PID-5 Withdrawal (REVERSE) | 05 | .00 | | |
| EPA Unconcern (low N) | 06 | .03 | | |
| EPA Self-Contentment (low N) | 04 | 08* | | |
| EPA Self-Assurance (low N) | .15*** | .13** | | |
| EPA Invulnerability (low N) | .14*** | .12** | | |

Table 8 Psychopathy Regression Models with All Subscales

| | Dependent Variables | | |
|-----------------------------|---------------------------|---------------------------|--|
| | TriPM | PPI-R | |
| Predictor Variables | $\Delta R^2 \qquad \beta$ | $\Delta R^2 \qquad \beta$ | |
| EPA Urgency (high N) | .03 | 02 | |
| EPA Anger (high N) | .05 | 03 | |
| EPA Coldness (low E) | .01 | .10** | |
| EPA Dominance (high E) | .03 | .05 | |
| EPA Thrill-Seeking (high E) | .04 | .10 | |
| EPA Arrogance (A) | .00 | .01 | |
| EPA Distrust (A) | .04 | .08* | |
| EPA Manipulation (A) | .02 | .01 | |
| EPA Self-Centeredness (A) | .08 | .08 | |
| EPA Oppositional (A) | .09* | .05 | |
| EPA Callousness (A) | .09 | .04 | |
| EPA Disobliged (C) | .07 | .03 | |
| EPA Impersistence (C) | 05 | .00 | |
| EPA Rashness (C) | .02 | 05 | |

Table 8 Psychopathy Regression Models with All Subscales (continued)

Note. PID-5 = Personality Inventory for the DSM-5. EPA = Elemental Psychopathy Assessment. TriPM = Triarchic Psychopathy Measure. PPI-R = Psychopathic Personality Inventory-Revised. N = Neuroticism. E = Extraversion. A = Agreeableness. C = Conscientiousness.

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

| | | | Dependent Variables | |
|------------------------------|--------------|--------|---------------------|--------|
| | Т | ri-PM | • | PPI-R |
| Predictor Variables | ΔR^2 | β | ΔR^2 | β |
| Step 1 | .88*** | | .85*** | |
| PID-5 Manipulativeness | | .26*** | | .12* |
| PID-5 Callousness | | .24*** | | .22*** |
| PID-5 Deceitfulness | | 07 | | .05 |
| PID-5 Hostility | | .14*** | | .04 |
| PID-5 Risk Taking | | .27*** | | .39*** |
| PID-5 Impulsivity | | .10* | | .07 |
| PID-5 Irresponsibility | | .13*** | | .03 |
| PID-5 Attention Seeking | | .03 | | .12** |
| PID-5 Anxiousness (REVERSE) | | .23*** | | .29*** |
| PID-5 Withdrawal (REVERSE) | | 05 | | 06 |
| Step 2 | .03*** | | .04*** | |
| PID-5 Manipulativeness | | .09* | | 06 |
| PID-5 Callousness | | .24*** | | .22*** |
| PID-5 Deceitfulness | | .03 | | .15** |
| PID-5 Hostility | | .08* | | 03 |
| PID-5 Risk Taking | | .09 | | .24*** |
| PID-5 Impulsivity | | .14** | | .11* |
| PID-5 Irresponsibility | | .14*** | | .05 |
| PID-5 Attention Seeking | | 02 | | .05 |
| PID-5 Anxiousness (REVERSE) | | .13** | | .12** |
| PID-5 Withdrawal (REVERSE) | | 09** | | 09** |
| EPA Unconcern (low N) | | 03 | | .08 |
| EPA Self-Contentment (low N) | | 03 | | 07 |
| EPA Self-Assurance (low N) | | .17*** | | .16*** |
| EPA Invulnerability (low N) | | .10** | | .08* |

 Table 9 Psychopathy Regression Models with Selected Subscales

Table 9 Psychopathy Regression Models with Selected Subscales (continued)

| | | Dependent Variables | | |
|-----------------------------|---------------------------|---------------------------|--|--|
| | Tri-PM | PPI-R | | |
| Predictor Variables | $\Delta R^2 \qquad \beta$ | $\Delta R^2 \qquad \beta$ | | |
| EPA Dominance (high E) | .06 | .11** | | |
| EPA Thrill-Seeking (high E) | .18*** | .11* | | |

Note. PID-5 = Personality Inventory for the DSM-5. EPA = Elemental Psychopathy Assessment. TriPM = Triarchic Psychopathy Measure. PPI-R = Psychopathic Personality Inventory-Revised. N = Neuroticism. E = Extraversion. *** $p \le .001$, ** $p \le .01$, * $p \le .05$.

Table 10 HPD Regression Models with Total Scores

| | Dependent Variables | | | |
|---------------------|---------------------|--------|--------------|----------|
| | | SNAP | | MCMI-III |
| Predictor Variables | ΔR^2 | β | ΔR^2 | β |
| Step 1 | .75*** | | .02* | |
| PID-5 HPD Total | | .87*** | | .13* |
| Step 2 | .08*** | | .08*** | |
| PID-5 HPD Total | | .45*** | | 29** |
| FFHI Total | | .50*** | | .51*** |

Note. HPD = Histrionic personality disorder. PID-5 = Personality Inventory for the DSM-5. FFHI = Five Factor Histrionic Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. *** $p \le .001$, ** $p \le .01$, * $p \le .05$.

| | Dependent Variables | | | |
|---------------------------------------|---------------------|--------|--------------|----------|
| | S | SNAP | Ν | ACMI-III |
| Predictor Variables | ΔR^2 | β | ΔR^2 | β |
| Step 1 | .75*** | • | .40*** | • |
| PID-5 Attention Seeking | | .58*** | | .59*** |
| PID-5 Emotional Lability | | .51*** | | 44*** |
| Step 2 | .10*** | | .28*** | |
| PID-5 Attention Seeking | | .27*** | | 15 |
| PID-5 Emotional Lability | | .12* | | 21* |
| FFHI Neediness for Attention (N) | | .09* | | 14* |
| FFHI Rapidly Shifting Emotions (N) | | .29*** | | 05 |
| FFHI Intimacy Seeking (E) | | 02 | | .30*** |
| FFHI Attention Seeking (E) | | .09 | | .59*** |
| FFHI Flirtatious (E) | | .05 | | 11 |
| FFHI Social Butterfly (E) | | .13** | | .23*** |
| FFHI Romantic Fantasies (O) | | .06 | | 27*** |
| FFHI Touchy Feely (O) | | .11** | | .04 |
| FFHI Suggestibility (A) | | 02 | | 04 |
| FFHI Melodramatic Emotionality (A, E) | | 02 | | .10 |
| FFHI Vanity (A) | | .08 | | .15 |
| FFHI Disorderly (C) | | .08* | | 07 |
| FFHI Impressionistic Thinking (C) | | .01 | | .01 |

Note. HPD = Histrionic personality disorder. PID-5 = Personality Inventory for the DSM-5. FFHI = Five Factor Histrionic Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. N = Neuroticism. E = Extraversion. O = Openness. A = Agreeableness. C = Conscientiousness. *** $p \le .001$, ** $p \le .01$, * $p \le .05$.

Table 12 HPD Regression Models with Selected Subscales

| | Dependent Variables | | | |
|----------------------------|---------------------------|--------------|----------|--|
| | SNAP | | MCMI-III | |
| Predictor Variables | $\Delta R^2 \qquad \beta$ | ΔR^2 | β | |
| Step 1 | .73*** | .40*** | | |
| PID-5 Attention Seeking | .57* | ** | .59*** | |
| PID-5 Emotional Lability | .50* | ** | 47*** | |
| Step 2 | .06*** | .18*** | | |
| PID-5 Attention Seeking | .24* | ** | 04 | |
| PID-5 Emotional Lability | .49* | ** | 45*** | |
| FFHI Intimacy Seeking (E) | .03 | | .24*** | |
| FFHI Attention Seeking (E) | .09 | | .64*** | |
| FFHI Flirtatious (E) | .18* | ** | 16* | |
| FFHI Social Butterfly (E) | .17* | ** | .20*** | |

Note. HPD = Histrionic personality disorder. PID-5 = Personality Inventory for the DSM-5. FFHI = Five Factor Histrionic Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. E = Extraversion.

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

Table 13 DPD Regression Models with Total Scores

| Predictor Variables | Dependent Variables | | | | |
|---------------------|---------------------|--------|--------------|----------|--|
| | | SNAP | | MCMI-III | |
| | ΔR^2 | β | ΔR^2 | β | |
| Step 1 | .72*** | | .76*** | | |
| PID-5 DPD Total | | .85*** | | .87*** | |
| Step 2 | .10*** | | .10*** | | |
| PID-5 DPD Total | | .29*** | | .31*** | |
| FFDI Total | | .64*** | | .64*** | |

Note. DPD = Dependent personality disorder. PID-5 = Personality Inventory for the DSM-5. FFDI = Five Factor Dependency Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. *** $p \le .001$, ** $p \le .01$, * $p \le .05$.

| Table 14 DPD Regression Models with All Subscales |
|---|
| Tuble I I DI D Regression models with the Subsected |

| | Depen | dent Variables |
|--------------------------------|---------------------------|---------------------------|
| | SNAP | MCMI-III |
| Predictor Variables | $\Delta R^2 \qquad \beta$ | $\Delta R^2 \qquad \beta$ |
| Step 1 | .77*** | .78*** |
| PID-5 Submissiveness | .36*** | .34*** |
| PID-5 Anxiousness | .25*** | .40*** |
| PID-5 Separation Insecurity | .46*** | .35*** |
| Step 2 | .10*** | .10*** |
| PID-5 Submissiveness | .17*** | .14*** |
| PID-5 Anxiousness | .08 | .07 |
| PID-5 Separation Insecurity | .18*** | .23*** |
| FFDI Separation Insecurity (N) | .11 | 01 |
| FFDI Pessimism (N) | 03 | .19*** |
| FFDI Shamefulness (N) | .16*** | .07 |
| FFDI Helplessness (N) | .06 | .10 |
| FFDI Intimacy Needs (E) | .15*** | 03 |
| FFDI Unassertiveness (E) | .06 | 03 |
| FFDI Gullibility (A) | .01 | .04 |
| FFDI Self-Effacing (A) | 11** | .02 |
| FFDI Subservience (A) | .08 | .18*** |
| FFDI Selflessness (A) | .02 | .03 |
| FFDI Ineptitude (C) | .15** | .08 |
| FFDI Negligence (C) | .10** | .14*** |

Note. DPD = Dependent personality disorder. PID-5 = Personality Inventory for the DSM-5. FFDI = Five Factor Dependency Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. N = Neuroticism. E = Extraversion. A = Agreeableness. C = Conscientiousness. *** $p \le .001$, ** $p \le .01$, * $p \le .05$.

Table 15 DPD Regression Models with Selected Subscales

| | Dependent Variables | | |
|-----------------------------|---------------------------|--------------|----------|
| | SNAP | | MCMI-III |
| Predictor Variables | $\Delta R^2 \qquad \beta$ | ΔR^2 | β |
| Step 1 | .78*** | .77*** | |
| PID-5 Submissiveness | .35** | ** | .34*** |
| PID-5 Anxiousness | .25*: | ** | .38*** |
| PID-5 Separation Insecurity | .46*: | ** | .36*** |
| Step 2 | .03*** | .05*** | |
| PID-5 Submissiveness | .14*: | ** | .13** |
| PID-5 Anxiousness | .22*: | ** | .28*** |
| PID-5 Separation Insecurity | .44** | ** | .36*** |
| FFDI Gullibility (A) | .11** | * | .11*** |
| FFDI Self-Effacing (A) | .01 | | .16*** |
| FFDI Subservience (A) | .20*: | ** | .20*** |
| FFDI Selflessness (A) | .02 | | 06 |

Note. DPD = Dependent personality disorder. PID-5 = Personality Inventory for the DSM-5. FFDI = Five Factor Dependency Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. A = Agreeableness. *** $p \le .001$, ** $p \le .01$, * $p \le .05$.

Table 16 OCPD Regression Models with Total Scores

| | Dependent Variables | | | | | |
|---------------------|---------------------|--------|--------------|--------|--|----------|
| | SNAP | | SNA | | | MCMI-III |
| Predictor Variables | ΔR^2 | β | ΔR^2 | β | | |
| Step 1 | .38*** | | .02* | | | |
| PID-5 OCPD Total | | .62*** | | 13* | | |
| Step 2 | .31*** | | .60*** | | | |
| PID-5 OCPD Total | | .27*** | | 62*** | | |
| FFOCI Total | | .66*** | | .91*** | | |

Note. OCPD = Obsessive-compulsive personality disorder. PID-5 = Personality Inventory for the DSM-5. FFOCI = Five Factor Obsessive-Compulsive Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. *** $p \le .001$, ** $p \le .01$, * $p \le .05$.

| | Dependent Variables | | | |
|-----------------------------------|---------------------|--------|--------------|----------|
| | SN | AP | l | MCMI-III |
| Predictor Variables | ΔR^2 | β | ΔR^2 | β |
| Step 1 | .54*** | • | .36*** | |
| PID-5 Rigid Perfectionism | | .66*** | | .56*** |
| PID-5 Perseveration | | .11* | | 60*** |
| PID-5 Intimacy Avoidance | | .03 | | 03 |
| PID-5 Restricted Affectivity | | .02 | | 14* |
| Step 2 | .23*** | | .41*** | |
| PID-5 Rigid Perfectionism | | .07 | | 08 |
| PID-5 Perseveration | | .20*** | | 22*** |
| PID-5 Intimacy Avoidance | | .05 | | 07 |
| PID-5 Restricted Affectivity | | .01 | | .01 |
| FFOCI Excessive Worry (N) | | .05 | | 13** |
| FFOCI Detached Coldness (E) | | .07 | | .01 |
| FFOCI Risk-Aversion (E) | | .01 | | .33*** |
| FFOCI Constricted (O) | | .10 | | 09 |
| FFOCI Inflexible (O) | | 01 | | .02 |
| FFOCI Dogmatism (O) | | .18*** | | .00 |
| FFOCI Perfectionism (C) | | .24*** | | 05 |
| FFOCI Fastidiousness (C) | | 02 | | .10 |
| FFOCI Punctiliousness (C) | | .15* | | .22*** |
| FFOCI Workaholism (C) | | .26*** | | .04 |
| FFOCI Doggedness (C) | | 18** | | .28*** |
| FFOCI Ruminative Deliberation (C) | | .19*** | | .16** |

Table 17 OCPD Regression Models with All Subscales

Note. OCPD = Obsessive-compulsive personality disorder. PID-5 = Personality Inventory for the DSM-5. FFOCI = Five Factor Obsessive-Compulsive Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. N = Neuroticism. E = Extraversion. O = Openness. C = Conscientiousness. *** $p \le .001$, ** $p \le .01$, * $p \le .05$.

| | | Depende | ent Variables | |
|-----------------------------------|--------------|---------|---------------|----------|
| | | SNAP | Ν | ACMI-III |
| Predictor Variables | ΔR^2 | β | ΔR^2 | β |
| Step 1 | .55*** | | .37*** | |
| PID-5 Rigid Perfectionism | | .67*** | | .57*** |
| PID-5 Perseveration | | .10* | | 61*** |
| PID-5 Intimacy Avoidance | | .06 | | 01 |
| PID-5 Restricted Affectivity | | .01 | | 15** |
| Step 2 | .19*** | | .34*** | |
| PID-5 Rigid Perfectionism | | .15* | | 06 |
| PID-5 Perseveration | | .23*** | | 31*** |
| PID-5 Intimacy Avoidance | | .08* | | 02 |
| PID-5 Restricted Affectivity | | .09* | | 05 |
| FFOCI Perfectionism (C) | | .18** | | 04 |
| FFOCI Fastidiousness (C) | | 05 | | .08 |
| FFOCI Punctiliousness (C) | | .25*** | | .29*** |
| FFOCI Workaholism (C) | | .31*** | | 04 |
| FFOCI Doggedness (C) | | 20*** | | .31*** |
| FFOCI Ruminative Deliberation (C) | | .23*** | | .32*** |

Table 18 OCPD Regression Models with Selected Subscales

Note. OCPD = Obsessive-compulsive personality disorder. PID-5 = Personality Inventory for the DSM-5. FFOCI = Five Factor Obsessive-Compulsive Inventory. SNAP = Schedule for Nonadaptive and Adaptive Personality. MCMI-III = Millon Clinical Multiaxial Inventory-III. C = Conscientiousness.

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

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VITA

ALEXANDRA HINES

EDUCATION

| University of Kentucky, Lexington KY | 2021-present |
|---|--------------|
| Doctoral Program in Clinical Psychology | |
| GPA: 4.00/4.00 | |
| Mentors: Thomas A. Widiger, Ph.D., Shannon Sauer-Zavala, Ph.D., and | |
| Matthew W. Southward, Ph.D. | |
| | |

| University of Georgia, Athens GA | 2021 |
|---|------|
| B.S. in Psychology, Summa Cum Laude, with Honors | |
| Minor in Criminal Justice Studies | |
| Major GPA: 4.00/4.00, Cumulative GPA: 3.98/4.00 | |
| Mentors: Joshua D. Miller, Ph.D., L. Stephen Miller, Ph.D., and | |
| Courtland Hyatt, Ph.D. | |

AWARDS AND HONORS

| UK Psychology Summer Research Assistantship | 2022 |
|--|-----------|
| UK Department of Psychology Fellowship | 2022 |
| | - |
| UGA Presidential Award of Excellence | 2021 |
| David R. Shaffer Excellence in Undergraduate Psychology Research Award | d 2021 |
| Center for Undergraduate Research Opportunities (CURO) Summer Fellow | v 2020 |
| Bulldog Vision Award Nominee (UGA Engagement, Leadership, & Service | e) 2020 |
| Phi Beta Kappa Society | 2020 |
| Honor Society of Phi Kappa Phi | 2019 |
| Psi Chi International Honor Society in Psychology | 2019 |
| Donald E. Barnett Essay Award (UGA English) | 2018 |
| Dean's List | 2018 |
| Presidential Scholar | 2017 |
| UGA Charter Scholarship | 2017-2021 |
| Zell Miller Scholarship | 2017-2021 |
| | |

RESEARCH EXPERIENCE

Psychopathology Laboratory

2021-present

Mentor: Thomas A. Widiger, Ph.D.

- Preparing to co-write a chapter for *Psychopathology 6th edition*
- Preparing to collect data for a study on identity disturbance as it is defined in the AMPD and its relationship with the FFM
 - Will co-mentor a group of seven undergraduates helping with this project in Summer 2023 to help prepare them for graduate school
- Preparing to collect data for a study on the FFM personality profiles of famous

psychopaths

- Preparing to factor analyze data collected for a study on the PID-5 as well as selected scales from the EPA, FFHI, FFDI, and FFOCI
- Analyzing data collected for a study on the location of the Depressivity and Suspiciousness facets in the AMPD trait model

Treatment Innovation for Psychological Services (TIPS) Laboratory 2021-present *Mentors: Shannon Sauer-Zavala, Ph.D. and Matthew W. Southward, Ph.D.*

- Will coordinate a study conducted in collaboration with UK Psychiatry in Fall 2023-Spring 2024
 - Duties will include coordinating patient visits, tracking patient progress through treatment, and randomizing patients in a multi-arm treatment study of patients with mood and anxiety disorders
- Submitted an abstract focused on borderline personality disorder to be considered for a *PDTRT* special edition on DSM-5 Section II- vs. AMPD-defined personality disorders
- Contributed to a NIMH grant application entitled "Engaging Higher-Order Mechanisms of Psychopathology: A Parsimonious Approach to Precision Medicine" by Drs. Sauer-Zavala and Southward
- Interviewed potential undergraduate research assistants

CURO Summer Fellowship

Mentors: Joshua D. Miller, Ph.D., and Courtland Hyatt, Ph.D.

- Paid summer fellowship to conduct an exploratory factor analysis examining the general and pathological personality correlates of precipitants to sexual misconduct
- Carried out a literature search, received hands-on training in statistical analysis, and defended research findings

Personality Studies Laboratory

Mentor: Joshua D. Miller, Ph.D.

- Served as a project manager for a meta-analysis of meta-analyses to empirically assess the external validity of studies conducted on undergraduate research participants
- Coordinated two studies by training research assistants, organizing schedules, and fielding issues
- Gained research literacy skills and exposure to various methodologies such as informant reports, test-retest protocol, and multi-method self-report assessments
- Assisted in study development and acquired in-depth content knowledge about personality

Neuropsychology and Memory Assessment Laboratory

2020-2021

Mentor: L. Stephen Miller. Ph.D.

- Conducted a study on personality, impulsivity, and attentional set-shifting in older adults

2020

2019-2021

CLINICAL EXPERIENCE

Jesse G. Harris Jr. Psychological Services Center

Supervisor: Mary Beth McGavran, Ph.D.

- Providing individual evidence-based cognitive behavioral therapy and assessment to adults

Clinic for Emotional Health Practicum

Supervisor: Shannon Sauer-Zavala, Ph.D. and Matthew W. Southward, Ph.D.

- Conducting diagnostic assessments for a clinical trial testing a new treatment for BPD
- Providing therapy to a participant in a clinical trial testing a new treatment for BPD
- Co-leading group therapy using the UP

PSY 632/633: Clinical Methodology II Practicum

- Learned to administer the DIAMOND, MINI, and SCID-5-PD
- Administered the assessments to undergraduate volunteers as well as a community volunteer, wrote reports, and provided a feedback session

PSY 630/631: Clinical Methodology I Practicum

- Learned to administer the WAIS-IV and WJ-IV
- Administered the assessments to a client at the Jesse G. Harris Jr. Psychological Services Center, wrote an integrated report, and observed the feedback session provided to the client

Neuropsychology and Memory Assessment Laboratory

Supervisor: L. Stephen Miller, Ph.D.

- Learned to administer the MMSE, CVLT, WTAR, ROCF, BNT, WMS-IV Logical Memory I & II and Symbol Span, and D-KEFS Trail Making, Verbal Fluency, & Color-Word Interference Tests for a study that was discontinued due to COVID-19

TEACHING EXPERIENCE

- Summer 2023: Teaching Assistant Forensic Psychology (Online)
- Spring 2023: Teaching Assistant Research in Personality
- Fall 2022: Teaching Assistant Experimental Psychology

PEER-REVIEWED PUBLICATIONS

- 1. Widiger, T. A., **Hines**, **A.**, & Crego, C. (in press). Evidence-based assessment of personality disorder. *Assessment*.
- 2. Widiger, T. A., & **Hines**, A. (in press). Personality disorders. In H. Friedman (Ed.). Encyclopedia of mental health (3rd ed.). Kidlington, Oxford: Elsevier.
- 3. Widiger, T. A., & Hines, A. (2022). The Diagnostic and Statistical Manual of

2022-present

2022-present

2021

2020-2021

2022

Mental Disorders, Fifth Edition Alternative Model of Personality Disorder. *Personality Disorders: Theory, Research, and Treatment,* 13(4), 347–355. <u>https://doi.org/10.1037/per0000524</u>

OTHER PUBLICATIONS

1. **Hines, A. H.** (2018). "Does John Donne Dream of Electric Sheep? The Role of Art in *Do Androids Dream of Electric Sheep?" First Year Composition Guide: University of Georgia 2018-2019.*

CONFERENCE PRESENTATIONS

 Southward, M. W., Stumpp, N. E., Semcho, S. A., Fruhbauerova, M., Hines, A., & Sauer-Zavala, S. (2023, November). It's not how many skills you use, but how often you use them: Predicting session-to-session reductions in BPD features in a novel CBT for BPD. In E. Waite & K. L. Dixon-Gordon (Chairs), *The who, what, and how of regulating emotions in borderline personality disorder*. Paper to be presented at the annual meeting of the Association for Behavioral and Cognitive Therapies (ABCT), Seattle, WA.

CONFERENCE POSTERS

- Hines, A., Southward, M. W., Sauer-Zavala, S., & Widiger, T. A. (2023, April). *Bipolarity of maladaptive personality traits in the Alternative Model of Personality Disorders*. Poster presented at the annual meeting of the North American Society for the Study of Personality Disorders (NASSPD), Waltham, MA.
- Hines, A. H., Jean, K. R., & Miller, L. S. (2021, April 13). Attentional setshifting moderates the relation between openness and impulsivity in a sample of majority white American older adults. Poster presented at the Center for Undergraduate Research Opportunities (CURO) Virtual Symposium, Athens, GA.
- 3. Hines, A. H., Hyatt, C. S., & Miller, J. D. (2020, August 4). *An examination of the relations between personality and proximal attitudinal precipitants of sexual aggression*. Poster presented at the Center for Undergraduate Research Opportunities (CURO) Virtual Symposium, Athens, GA.

INVITED TALKS

1. **Hines, A.** (2023, March). Forensic psychology & crime and aggression. Invited Talk, University of Kentucky, Lexington, KY.

WORKSHOPS & PRESENTATIONS

Panelist

| - | Graduate School Application Workshop by Dr. Lynda Sharrett-Field | 2023 |
|---------|--|------|
| Attende | ee | |
| - | Essential DBT Skills for Suicidal Individuals and the | 2023 |
| | People that Care for Them by Dr. Shireen L. Rizvi | |
| - | BPD Compass: Introductory Workshop | 2023 |
| | by Dr. Shannon Sauer-Zavala | |
| - | Introduction to Multilevel Modeling | 2022 |
| | by Drs. Daniel J. Bauer and Patrick J. Curran | 2022 |
| - | Group Iterative Multiple Model Estimation by Dr. Katie Gates | 2022 |
| - | Neuroticism: A Framework for the Assessment & | 2022 |
| | Treatment of Emotional Disorders by Dr. Shannon Sauer-Zavala | |
| - | Applications of Nosology | 2022 |
| | by Drs. Jack Hettema and Shannon Sauer-Zavala. | |
| | Moderator: Jennifer Tackett. Hierarchical Taxonomy of | |
| | Psychopathology (HiTOP) Virtual Conference. | |

CERTIFICATIONS

| - | Advarra University OnCore Training | 2023 |
|---|---|------|
| - | UK OnCore Training | 2023 |
| - | UK Epic Training | 2023 |
| - | UK HIPAA Compliance Training | 2023 |
| - | Collaborative Assessment/Management of Suicidality Course | 2022 |
| - | CITI Certification - Basic Social & Behavioral Research | 2021 |
| - | CITI Certification - Responsible Conduct of Research | 2021 |
| - | MRI Safety Training | 2020 |
| - | Clinical Dementia Rating Scale Rater Certification | 2020 |
| | | |

MEMBERSHIPS

| - | Association for Behavioral and Cognitive Therapies | 2023-present |
|---|---|--------------|
| | Personality and Personality Disorder Special Interest Group | |
| - | North American Society for the Study of Personality Disorders | 2023-present |

STATISTICS AND DATA SKILLS

- R
- SPSS
- CloudResearch/TurkPrime
- REDCap
- Qualtrics Survey DesignSurveyMonkey Survey Design
- Sona Systems -

SERVICE

UK Psychology's Diversity, Equity, and Inclusion (DEI) Committee 2021-2023 *Leadership Subcommittee* (2022-2023)

- Co-wrote a grant application to the Inclusive Excellence Student Program
 - The purpose of the application was to request funds for a peer mentorship and workshop series for freshmen and sophomores from backgrounds that are underrepresented in academics/psychology
- Assist with setting meeting agendas, facilitating discussion, disseminating information about our committee's work to the larger department, and developing metrics to develop committee efficiency
- Committee leadership positions are chosen by the larger group and serve for a _ one-year term

General Body Member (2021-2022)

Help with DEI-related goals such as decolonizing syllabi, disseminating resources, increasing transparency across the department and in admissions, and diversifying the pathway to research-related careers

Graduate Student Assistant Coordinator

Helped coordinate schedules and organize panels for prospective students during the clinical psychology program interview week for the 2023-2024 application cycle

University of Georgia Honors Program

Honors Ambassador

Recruited new students to the UGA Honors Program by serving as a panelist alongside other Honors students and professors during formal Q&A sessions

University Union Student Programming Board

Vice President of Internal Affairs (2019-2020)

- Managed two coordinators who assisted me with my role
- Recruited and retained members by sending weekly emails to ~3,300 subscribers, leading weekly meetings, planning events, recognizing outstanding members, and coordinating banquets and socials
- Improved events by sending out surveys after each event and supervising data analysis

Coordinator for Member Relations (2018-2019)

Enhanced membership in University Union by assisting the Vice President of Internal Affairs with talking to prospective members at events and leading engaging meetings

EMPLOYMENT

2023

2017-2020

2017-2020

University of Georgia Honors Program

Student Worker

- Worked with a team to orient \sim 745 new Honors students to UGA by helping them create their class schedules
- Ensured efficiency within the Honors Program by proofreading magazines, transcribing interviews, helping at fundraising opportunities, filing documents, and directing phone calls