

ATTACHMENT AND PATHOLOGICAL PERSONALITY TRAITS  
IN A PSYCHIATRIC SAMPLE

A Thesis Submitted to the  
College of Graduate and Postdoctoral Studies  
In Partial Fulfillment of the Requirements  
For the Degree of Master of Science  
In the College of Medicine/Health Sciences Program  
University of Saskatchewan  
Saskatoon

By

PHILLIP A. RADETZKI

## PERMISSION TO USE

In presenting this thesis/dissertation in partial fulfillment of the requirements for a Postgraduate degree from the University of Saskatchewan, I agree that the Libraries of this University may make it freely available for inspection. I further agree that permission for copying of this thesis/dissertation in any manner, in whole or in part, for scholarly purposes may be granted by the professor or professors who supervised my thesis/dissertation work or, in their absence, by the Head of the Department or the Dean of the College in which my thesis work was done. It is understood that any copying or publication or use of this thesis/dissertation or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the University of Saskatchewan in any scholarly use which may be made of any material in my thesis/dissertation.

## DISCLAIMER

Reference in this thesis/dissertation to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favoring by the University of Saskatchewan. The views and opinions of the author expressed herein do not state or reflect those of the University of Saskatchewan, and shall not be used for advertising or product endorsement purposes.

Requests for permission to copy or to make other uses of materials in this thesis/dissertation in whole or part should be addressed to:

Dean of the College of Medicine  
4A20 Health Science Building, 107 Wiggins Road  
University of Saskatchewan  
Saskatoon, Saskatchewan, S7N 5E5, Canada

OR

Dean  
College of Graduate and Postdoctoral Studies  
University of Saskatchewan  
116 Thorvaldson Building, 110 Science Place  
Saskatoon, Saskatchewan, S7N 5C9, Canada

## Abstract

**Background:** There is increasing interest in the role of attachment in the treatment of personality pathology. Yet, attachment-personality research has rarely used the most modern model of personality pathology—the dimensional-categorical model. Compared to the traditional categorical model, this alternative model assesses dysfunction and maladaptive traits instead of symptom thresholds. The current study is first to utilize the dimensional-categorical model to study the relationship between attachment and personality with a psychiatric sample.

**Method:** Self-report measures of attachment and personality pathology were administered to psychiatric outpatients prior to their initial meeting with a psychiatrist ( $N = 150$ ). Bivariate correlations determined whether attachment dimensions were associated with total and domain-specific personality pathology. Regression analyses investigated the extent to which attachment dimensions uniquely predicted personality pathology.

**Results:** Insecure attachment positively correlated with overall personality pathology, with attachment anxiety having a stronger correlation than attachment avoidance. Distinct relationships emerged between attachment anxiety and negative affectivity and between attachment avoidance and detachment. Insecure attachment and male gender predicted overall personality pathology, but only attachment anxiety predicted all five trait-domains.

**Conclusion:** Insecure attachment might be a risk factor for pathological personality traits. Assessing attachment in clinical contexts and incorporating attachment-building strategies could benefit interpersonal and treatment outcomes.

## Acknowledgements

I would like to thank my supervisor, Dr. Camelia Adams, for believing in my ability to complete this project. Her continuous support and guidance will always be appreciated. I would also like to thank my research advisory committee: Dr. Lachlan McWilliams, Dr. Trevor Olson, Dr. Lloyd Balbuena, and Dr. Rohit Lodhi. Their feedback has been invaluable and helped me form a more well-rounded understanding of my thesis topic. I will also give special thanks to my family and partner for their unconditional support. I must also thank my puppy for forcing me to take frequent breaks so we could go outside for long walks. Lastly, I am very thankful for scholarships/grants that have allowed me to begin and finish this project. This includes the Department of Psychiatry's Intramural Award and the College of Medicine Graduate Research Award.

Notice: As of February 25<sup>th</sup>, 2021, a version of this thesis is under review at *Comprehensive Psychiatry* (CP) for possible publication. With appreciated help from the University of Saskatchewan's copyright coordinator, Kate Langrell, CP does not consider academic theses as formal publications. Thus, we do not anticipate copyright issues to occur if the submitted manuscript is ultimately accepted for publication.

## Table of Contents

Abstract.....	i
Acknowledgments.....	ii
Table of Contents.....	iii
List of Tables.....	v
List of Figures.....	vi
List of Abbreviations.....	vii
Preamble.....	viii
Chapter 1: Attachment and Personality.....	1
Brief Introduction to Attachment.....	1
Contemporary Views of Attachment.....	3
Secondary Attachment Strategies.....	5
Insecure Attachment and Maladaptive Functioning.....	6
Personality and the Big Five.....	7
Emergence from the Lexical Hypothesis.....	9
Across Languages and Cultures.....	9
A Measure of Maladaptive Functioning.....	10
Relationship to Personality Disorders.....	12
Attachment and Personality.....	14
Insecure Attachment and the Big Five.....	14
Insecure Attachment and Personality Disorders.....	15
Recent Conceptual Developments.....	16
Attachment as a Precursor for Personality Development.....	16
The Stability of Attachment and Pathological Personality.....	18
Changes in Attachment Corresponding to Changes in Personality.....	20
Summary.....	23
Chapter 2: Conceptual Models of Personality Disorders.....	24
Categorical Model.....	24
Advantages.....	26
Limitations.....	27
Conclusions.....	30
Dimensional-Categorical Model.....	30
Advantages.....	35
Insecure Attachment and the Dimensional-Categorical Model.....	40
Conclusions.....	43
Summary.....	43

Current Study.....	44
Hypotheses.....	44
Chapter 3: Methodology.....	46
Participants.....	46
Procedure.....	46
Measures.....	47
Demographics.....	47
Personality Inventory for the DSM-5—Brief Form-Adult (PID-5-BF).....	47
Experience in Close Relationships Scale (ECR).....	48
Statistical Analyses.....	48
Chapter 4: Results.....	51
Sample Characteristics.....	51
Hypothesis 1.....	53
Hypothesis 2.....	53
Hypothesis 3.....	54
Chapter 5: Discussion.....	59
Hypothesis 1.....	59
Hypothesis 2.....	63
Hypothesis 3.....	64
Clinical Implications.....	66
Strengths and Limitations.....	68
Future Research.....	70
Conclusion.....	72
References.....	74

## List of Tables

Table 1.1. Summary of Attachment Styles.....	5
Table 1.2. Descriptions of the Big Five Trait-Domains.....	8
Table 1.3. Correlations Between the Big Five and Personality Disorders.....	13
Table 1.4. Correlations Between Insecure Attachment and the Big Five.....	14
Table 2.1. Criteria for General PDs via the Categorical Model.....	24
Table 2.2. Criteria for Borderline PD via the Categorical Model.....	25
Table 2.3. Summary of Advantages and Disadvantages of the Categorical Model.....	27
Table 2.4. Personality Trait-Domains and Trait-Facets in Section III of the DSM-5.....	31
Table 2.5. Correlations Between the Big Five and Pathological Personality Trait-Domains.....	37
Table 2.6. Correlations Between Insecure Attachment and Pathological Personality Trait-Domains.....	42
Table 4.1. Characteristics of the Sample.....	51
Table 4.2. Sample Descriptive Statistics for the PID-5-BF and ECR.....	52
Table 4.3. Correlations Between Insecure Attachment and Pathological Personality Trait-Domains.....	54
Table 4.4. Insecure Attachment as a Predictor of Overall and Domain-Specific Personality Pathology.....	57

## **List of Figures**

Figure 1.1. Models of the Self and Other Within Attachment Styles.....	2
Figure 1.2. Two-dimensional Conceptualization of Attachment.....	4
Figure 1.3. A Conceptual Example of a Big Five Profile.....	11
Figure 2.1. A Hypothetical Trait-Facet Profile.....	33

## **List of Abbreviations**

DSM = Diagnostic and Statistical Manual of Mental Disorders

DSM-5 = Fifth Edition

DSM-IV = Fourth Edition

DSM-III-Revised = Third Edition Revised

DSM-III = Third Edition

DSM-II = Second Edition

DSM-I = First Edition

PD(s) = Personality Disorder(s)

APA = American Psychiatric Association

MBT = Mentalization-Based Therapy

NOS = Not Otherwise Specified

PID-5[-BF] = Personality Inventory for the DSM-5 [Brief Form]

P&PDWG = Personality and Personality Disorders Work Group

PD-TS = Personality Disorder Trait-Specifier(s)

ECR = Experience in Close Relationships scale

ASQ = Attachment Style Questionnaire

## Preamble

The way individuals relate in relationships (i.e., attachment styles) and their characteristic style of thinking, feeling, and acting (i.e., personality type) are two critical factors for thriving in the social world. So much so, that researchers argue that attachment and personality research should combine into one comprehensive field of study. This argument largely stems from the observations of the intimate relation between insecure attachment and pathological personality, as well as research revealing that childhood attachment can predict personality traits in adulthood. While attachment-personality research has flourished since the 1970s, recent developments in personality research have resulted in new questions that remain unanswered. These questions largely debate the ability to capture the relevant information pertaining to personality through the previous diagnostic approaches and corresponding symptom measures.

In order to address these concerns, the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) introduced a dimensional-categorical (also known as hybrid) model of personality disorders (PDs) in 2013. This hybrid model represents an alternative to the current categorical model, which has a series of well-documented issues over its 40-year use. As the name suggests, the categorical model conceptualizes PDs as being distinct categories characterized by a pre-defined threshold system that requires a minimum number of required symptoms (e.g., three of eight) to make a diagnosis. In this model, a patient will either have a personality disorder or not. In contrast, the alternative hybrid model conceptualizes PDs as a blend of traits that are extreme variants of maladaptive personality. Thus, a patient will still be comprehensively assessed for clinically relevant trait elevations even if not meeting any diagnostic criteria.

The categorical model has accumulated a series of well-documented issues since the publication of the DSM-III in 1980. One of the most significant criticisms of the categorical model includes its unempirical roots. Comparatively, the hybrid model is based on the Big Five—one of the most empirically validated taxonomies of personality. Although the hybrid model addresses many key issues with the categorical model, its incorporation into the DSM-5 was arguably as contentious as the categorical model itself. Ultimately, the American Psychiatric Association (APA) chose to retain the categorical model and present the hybrid in Section III—that of emerging models. Despite this cautious approach, this new model comes

with numerous advantages that allow for a more subtle evaluation of pathological aspects of personality that can be highly relevant clinically. Still, research investigating its clinical utility is minimal. Moreover, research addressing the connection between attachment and personality while utilizing the hybrid model is also limited. In fact, within attachment-personality research, only three studies have utilized the dimensional-categorical model. None, however, with a psychiatric (or otherwise clinical) sample. The current study aims to fill this gap.

This thesis will start with two respective chapters focused on attachment-personality research and models of PDs. The first chapter will provide a brief introduction to attachment and personality research, key concepts, and recent conceptual developments. The second chapter will discuss the categorical model, its limitations, and how the dimensional-categorical model emerged as an alternative. Three hypotheses informing the current research will emerge at the end of these two chapters. These hypotheses will address the relationship between adult attachment and pathological personality trait-domains in a clinical psychiatric population. Finally, subsequent chapters will discuss the methodology used to address these hypotheses and their results, followed by a discussion of the overall implications and possibilities for future research.

## Chapter 1: Attachment and Personality

### Brief Introduction to Attachment

According to Bowlby, infants' experiences with close others (i.e., parents) set the foundation for psychosocial development—personality, in particular—that persist into adulthood.<sup>1</sup> These early experiences form schemas, which manifest in a primary attachment style that contributes to the levels of support and conflict one perceives in interpersonal relationships. If an infant experiences that a mother's support is inconsistent, for example, the infant may develop an attachment style characterized by the need to capture the mother's attention and care, in which the failure to do so would affirm the fear that one cannot obtain her support. This basis, according to Bowlby,<sup>1</sup> facilitates the development of a personality structure that is equally maladaptive, therein making interpersonal functioning all the more difficult as one ages. Bowlby<sup>1</sup> admitted that this perspective on pathological personality was “radical” for the time (1980s), with traditional perspectives focusing on the onset of a particular symptom or syndrome (p. 28). His bold perspective ultimately took hold among researchers, with some now considering attachment a “grand theory” in contemporary psychology (Fraley & Shaver,<sup>2</sup> p. 518).

Bowlby's notion of attachment in infancy would be supported by Ainsworth, who observed different attachment behaviours among mother-infant relationships in America and Uganda.<sup>3,4</sup> In the presence of their mother, secure infants often felt safe and confident to engage in exploring activities (i.e., familiarizing oneself with a novel environment). Anxious infants, however, experienced immediate distress upon noticing the mother's sudden absence, often responding to her return with heightened affection (e.g., clinging) or disinterest (e.g., resisting the mother's care). Meanwhile, avoidant infants appeared to be consistently distant from their mothers, showing little care for her absence or return. These observations not only lead to the development of attachment measures in children but also in adults.

Hazan and Shaver<sup>5</sup> investigated adult attachment in romantic relationships, developing a categorical assessment of secure, anxious, and avoidant styles. In doing so, they found that individuals with different attachment styles report unique characterizations of their romantic relationships, and, more generally, of love itself. For example, while secure individuals typically described their relationships as happy and trusting, insecure individuals reported themes of jealousy, fears of intimacy, obsession, and emotional turbulence.

Shortly after Hazan and Shaver published their three-category model, Bartholomew<sup>6</sup> proposed a modified four-category version. The model built upon the three-category model by implementing a working model of self and others and by further differentiating anxious attachment and avoidant attachment. Bartholomew conceptualized attachment styles according to whether or not one views the self as worthy of love (i.e., positive/negative views of the self) and whether or not one views others as trustworthy and emotionally accessible (i.e., positive/negative views of others). Accordingly, four attachment styles were derived from this framework: secure, preoccupied, dismissing-avoidant, and fearful-avoidant (See Figure 1.1 below). These styles will be discussed with greater detail in following sections.

Figure 1.1. *Models of the self and other within attachment styles.*

		<u>Perceptions of the self</u>	
		<b>Positive</b>	<b>Negative</b>
<u>Perceptions of others</u>	<b>Positive</b>	<i>Secure</i>	<i>Preoccupied</i>
	<b>Negative</b>	<i>Dismissing-avoidant</i>	<i>Fearful-avoidant</i>

Note. *This figure is adapted from Bartholomew.*<sup>6</sup>

While such models of attachment helped establish a framework of the different styles, there was still hesitance about oversimplifying interpersonal experiences. For example, Hazan and Shaver<sup>5</sup> cautioned that relationships are “complex, powerful phenomena” that should not be suppressed into one attachment style category (p. 522). Bartholomew<sup>6</sup> was more explicit on the matter:

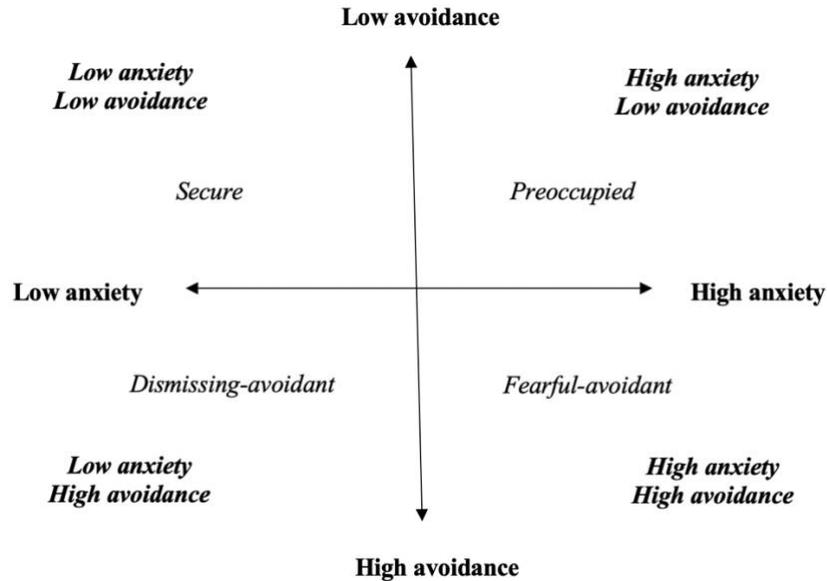
...no person’s actual experiences will uniformly match the prototype of a single [attachment style]. Thus, not all individuals are expected to exhibit a single attachment style as has often been implicitly assumed in previous attachment work; rather, some may show differing degrees of similarity to two or more [attachment styles] (p. 162).

Such sentiments toward the dimensionality of attachment styles were aligned with the narrative emerging in attachment research in the early 1990s. For example, research began investigating a possible orthogonal (right-angled) dimensional structure underlying the attachment categories.<sup>7</sup> Meanwhile, others were exploring how categorical attachment measures could be converted to dimensional ones.<sup>8</sup>

### **Contemporary Views of Attachment**

Today, attachment styles can be conceptualized in a two-dimensional space, with the respective dimensions being attachment anxiety and attachment avoidance (See Figure 1.2 below).<sup>9</sup> Attachment anxiety is characterized by a belief that others’ emotional availability is inconsistent. As a result, individuals with high attachment anxiety strive to maintain strong emotional bonds and continuous affection with others. Attachment avoidance is characterized by a belief that significant others are emotionally unavailable, therein motivating one to be entirely self-sufficient. In turn, individuals with high attachment avoidance tend to be more emotionally reserved and untrusting in relationships.<sup>3,5</sup> Attachment anxiety and attachment avoidance are both considered insecure attachment. In contrast, secure attachment is conceptualized as having low levels of attachment anxiety and attachment avoidance. Individuals with secure attachment are comfortable with intimacy, trustful, and able to offer and accept support appropriately.<sup>10</sup>

Figure 1.2. *Two-dimensional conceptualization of attachment.*



Note. *This figure is adapted from Fraley et al.<sup>9</sup>*

In addition to mapping attachment, Figure 1.2 also demonstrates how particular combinations of attachment dimensions exist within the two-dimensional space. These attachment types (also known as orientations, styles, and patterns) are referred to preoccupied, dismissing-avoidant, and fearful-avoidant, and are characterized by high or low levels of attachment anxiety and attachment avoidance.<sup>11</sup> For brevity, two of these attachment types are explained here (see Table 1.1 below for a complete summary). Preoccupied attachment is comprised of high attachment anxiety and low attachment avoidance. Individuals with preoccupied attachment often maintain a positive view of others but a negative view of the self, resulting in a sense of self that is dependent on others' judgements of them. Comparatively, individuals with high levels of attachment anxiety and attachment avoidance are classified as having a fearful-avoidant style. Such individuals engage in negative views of the self and of others. These views facilitate feelings of worthlessness and a fear that others are untrustworthy or cold-hearted.<sup>11,12</sup> Yet, despite a conscious fear of being reliant on others, fearful-avoidant individuals nevertheless yearn for others' acceptance and support. This contradicting set of wants and needs result in consistent interpersonal anxiety, ambivalence, and regret toward

acknowledging one’s desires.<sup>13</sup> For these reasons, Mikulincer and Shaver, two prominent figures in attachment research, consider fearful-avoidant attachment to be particularly destructive and troublesome.<sup>13</sup>

Table 1.1. *Summary of attachment styles.*

Attachment style	Key characteristics	Examples
Preoccupied	<ul style="list-style-type: none"> <li>• High attachment anxiety, low attachment avoidance</li> <li>• Positive views of others, negative views of self</li> </ul>	Sense of self is dependent on others’ judgements of them
Dismissing-avoidant	<ul style="list-style-type: none"> <li>• Low attachment anxiety, high attachment avoidance</li> <li>• Positive views of self, negative views of others</li> </ul>	Aim to be self-sufficient, with belief that relationships are of little value and priority
Fearful-avoidant	<ul style="list-style-type: none"> <li>• High attachment anxiety, high attachment avoidance</li> <li>• Negative views of self, negative views of others</li> </ul>	Often experience feelings of worthlessness and fears that others are untrustworthy and cold-hearted

### **Secondary Attachment Strategies**

Individuals with insecure attachment tend to revert to maladaptive interpersonal tendencies through secondary strategies via the hyperactivation and deactivation of emotions. Hyperactivating strategies can be conceptualized as “fight” responses to unsatisfied attachment needs.<sup>14</sup> For example, individuals high in attachment anxiety may engage in hyperactivating strategies if their partners offer love and support on an inconsistent basis. In attempt to receive more love and support, such individuals may intensify their demands and proximity-seeking behaviour by exaggerating threat appraisals, negative views of the self, and catastrophizing their performance in all social interactions.<sup>15,16</sup> Such hyperactivating strategies, however, tend to have the opposite effect than intended, creating further relational conflict and emotional distress.<sup>14</sup>

Conversely, individuals high on attachment avoidance engage in deactivating strategies, or “flight” responses.<sup>14</sup> This involves the initiation of emotional and physical distance from others and depriving oneself from attachment needs, intimacy, and social responsibility.<sup>15,16</sup> An individual with attachment avoidance may use deactivating strategies to minimize frustration and distress caused by their partner disapproving or not reciprocating expressions of need or vulnerability. In doing so, deactivating strategies confirm the notion that one can expect better outcomes if his/her vulnerability and needs are hidden from unavailable others.<sup>14</sup>

Ultimately, hyperactivating and deactivating strategies represent the early maladaptive schemas that Bowlby<sup>1</sup> theorized could result from insecure attachment in infancy. These schemas facilitate continuous engagement in insecure attachment systems across the life span, making it all the more difficult to navigate relationships with others. For example, if given choices of hypothetical romantic partners, individuals with insecure attachment are *initially* more attracted to those who have the same insecure attachment features that they themselves have (e.g., attachment anxiety + attachment anxiety). Yet, opposite features are preferred if such individuals are asked about partners with whom they believe a long-term relationship would be possible (e.g., attachment anxiety + attachment avoidance).<sup>17</sup> Another study showed that individuals with insecure attachment perceive partners with similar insecure attachment features as being the secure partner in the relationship.<sup>18</sup>

### **Insecure Attachment and Maladaptive Functioning**

Since secure attachment is a critical component of psychosocial development, those with insecure attachment can be expected to experience general emotional problems. Indeed, research shows that, compared to secure counterparts, individuals with insecure attachment are less able to derive positive emotions from their environments, such as joy, contentment, pride, love, and compassion.<sup>19</sup> Meanwhile, insecure attachment positively correlates with emotional dysregulation and suppression of sadness and anger.<sup>20</sup> Moreover, insecure attachment can predict psychological distress, which includes symptoms of anxiety, depression, and stress-related illness.<sup>21</sup> These studies illustrate that insecure attachment contributes to a difficulty navigating interpersonal experiences, with perceptions and responses to positive and negative interactions being affected.

Although a wealth of research on attachment has accumulated over the decades, there are still critical questions that come to mind. For example, some of the hallmark characteristics of

attachment anxiety, for instance, can be explained by the personality trait-domain neuroticism. Though to a lesser extent, the same can be said for attachment avoidance and introversion. Thus, how exactly is attachment different than personality? Relatedly, to what extent is an individual's thoughts and behaviours in relationships explained by attachment as opposed to personality? Given that attachment theory is inherently centred on interpersonal experiences, it is not surprising that research has consistently reported a relationship between attachment characteristics and personality functioning. Though, to best understand this relationship, it is important to first understand the Big Five.

### **Personality and the Big Five**

The American Psychological Association defines personality as an individual's enduring combination of traits, values, and emotional patterns that determine behaviour.<sup>22</sup> This definition represents the culmination of over a hundred years of personality research. In the early 20<sup>th</sup> century, personality research began to flourish as more emphasis was applied to measuring traits and behavioural observations.<sup>23</sup> The Woodworth Personality Data Sheet<sup>24</sup> is considered the first personality test. It was initially developed to assess shell shock in soldiers after World War I, but soon became a measure of neuroticism.<sup>25</sup> Today, neuroticism is considered part of the Big Five.

The Big Five refers to five broad trait-domains that represent individual differences in personality.<sup>26</sup> These domains are as follows: openness, conscientiousness, extraversion, agreeableness, and neuroticism. John, Naumann, and Soto<sup>27</sup> provide detailed descriptions of these domains, behavioural examples, and various associated academic/occupational outcomes (See Table 4.2, p.120). For example, an individual with a high level of openness is described as having broad originality and a dynamic perspective on life events. Behavioural examples include spontaneous engagement in stimulating activities and learning for personal joy. Openness is related to higher education, creativity, and unique work and home environments. Meanwhile, neuroticism has been described as negative emotionality (e.g., being anxious, nervous, tense). Neuroticism can manifest in difficulty regulating one's emotions across life events and interpersonal relationships, as well as difficulty relaxing.<sup>27</sup> Table 1.2 below summarizes additional descriptions of the Big Five in literature.<sup>28-31</sup>

Table 1.2. *Descriptions of the Big Five trait-domains.*

Trait-domain	Associated descriptors	Associated academic/ Occupational qualities
Openness	Intelligence, creativity, unconventionality/originality, general curiosity, flexibility, self-awareness, expressivity	High academic achievement, high training proficiency
Conscientiousness	Dependability, achievement-striving, planning, strong sense of purpose, obligation, resourcefulness, reflectivity, methodical	Overall task efficiency, high academic achievement, high vocational achievement
Extraversion	Sociability, dominance, ambition, positive emotionality, excitement-seeking, talkative, assertiveness, forceful attitude, high-spirited	Effective managers and salespersons, not a significant predictor of academic success
Agreeableness	Cooperation, courteous, trust, compliance, affordability, soft-heartedness, forthright, modesty, empathy	Not a significant predictor of job performance, not a significant predictor of academic success
Neuroticism	Anxiety, hostility, depression, personal insecurity, self-indulgent, pessimistic, resenting, vigilant	Inconsistent [general] performance when unsupervised, unlikely success in labor force, not a significant predictor of academic success

Each of the Big Five trait-domains also has a polar opposite trait-domain: cautiousness (versus openness), undirectedness (versus conscientiousness), introversion (versus extraversion), antagonism (versus agreeableness), and emotional stability (versus neuroticism). Therefore, the Big Five provides dimensional assessments of personality and can reveal the extent to which an individual's functioning on a given trait-domain is maladaptive versus adaptive (i.e., "normal"). This ability also demonstrates individual differences in these five broad personality trait-

domains.<sup>27</sup> The utility of these polar opposite trait-domains will be discussed further in later sections.

### **Emergence from the Lexical Hypothesis**

Prior to the Big Five, thousands of individual attributes were deemed worthy of study, resulting in a generally desynchronised field.<sup>27</sup> Though convoluted, this broad range of attributes is representative of the lexical hypothesis. The lexical hypothesis states that the attributes most relevant to human functioning are engrained in common language, with more widely understood attributes suggesting greater importance.<sup>32</sup> Galton is often credited with being the first to articulate the lexical hypothesis in his 1884 publication, “Measurement of character” (e.g., [and as cited in] Uher<sup>32</sup> and Goldberg<sup>33</sup>). In doing so, Galton initiated the process that ultimately resulted in the set of constructs known as the Big Five—a timeline spanning almost 100 years.

Goldberg<sup>33</sup> provides a detailed narrative of how the lexical hypothesis evolved to the Big Five. According to Goldberg,<sup>33</sup> Galton pursued this hypothesis by estimating the number of personality-descriptive terms often used in the English language and observing any conceptual overlaps across terms. Other researchers then began analyzing his estimates statistically, while using Webster's Unabridged Dictionary to add any new descriptive terms. One of such researchers was Thurstone, a pioneer in factor analysis. Thurstone was first to identify a variation of the Big Five model from 60 personality descriptors in a 1934 paper (as cited by Goldberg<sup>33</sup>). A large number of studies later echoed this five-factor structure using different and even larger sets of descriptor terms (see Goldberg<sup>33</sup> for complete review). For example, of hundreds of terms, those of similar meaning (e.g., affectionate, compassionate) grouped together to form a factor pole/cluster (e.g., warmth). The same applied to the terms sharing the opposite meaning (e.g., impersonal, insensitive), forming an opposing factor pole/cluster (e.g., callousness). Additional analyses focused only on the factor poles/clusters showed that similar factor poles/clusters (and their opposites) grouped together under a broader factor. Thus, factor poles/clusters like warmth and cooperation grouped under the broader factor of agreeableness, while opposing factor poles/clusters like callousness and belligerence grouped under the broader factor of antagonism (the inverse of agreeableness).<sup>34</sup>

### **Across Languages and Cultures**

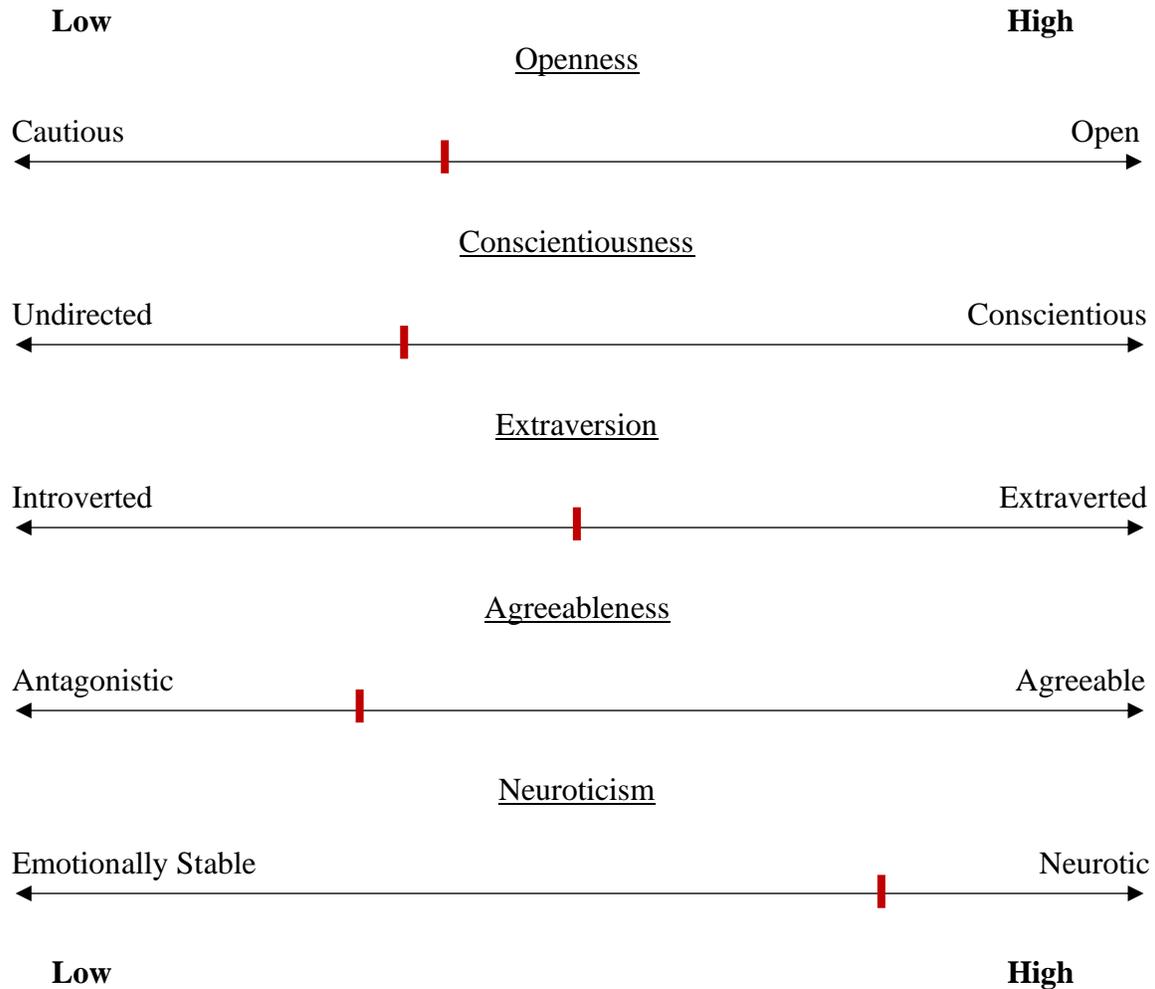
Ultimately, the Big Five established a succinct taxonomy that represents a comprehensive set of personality traits. Through the lexical hypothesis, the Big Five taxonomy was developed

across decades of research. This taxonomy remains strongly supported today. For example, McCrae and Costa, Jr.<sup>35</sup> found that the Big Five structure is evident across cultures and languages. In their analyses, cultural differences included those of wealth (rich versus impoverished), political systems (e.g., emphasized versus restricted individual civil rights), and general social norms, attitudes, and values (e.g., egalitarian versus conservatism; individualism versus collectivism). Language differences were also investigated, which included languages that ranged in historical origin, grammar, and syntax (e.g., German versus Chinese). This universality of the Big Five structure across diverse cultures and languages is particularly impressive, given that the structure is based on personality adjectives rooted in the English language and, by association, North American life experiences. Overall, the Big Five is often considered the most important advancement in personality in the past half century.<sup>26</sup>

### **A Measure of Maladaptive Functioning**

As mentioned previously, each Big Five trait-domain is paired with an opposite trait-domain (e.g., neuroticism versus emotional stability). In addition to helping capture individual differences, the pairs also represent the extent to which one's rank on a given trait-domain is maladaptive. Although the trait-domains (with exception of neuroticism) are associated with adaptive and positive qualities, ranking too high in a trait-domain is arguably as undesirable as ranking too low. For example, very high agreeableness corresponds to being deceivable, while very low neuroticism corresponds to being unexcitable.<sup>36</sup> Widiger and Mullins-Sweatt<sup>31</sup> provide an in-depth summary of the Big Five trait-domains and respective descriptors for maladaptively high/low and normal high/low presentations (and illustrate such in Figure 1, p. 202). The current author conceptualizes an example of a Big Five profile in Figure 1.3 below, in which the markings represent a particular individual's ranking.

Figure 1.3. *A conceptual example of a Big Five profile.*



If applying the basic descriptors summarized in Table 1.2 (p. 8), this individual can be expected to show a tendency to experience moodiness and an overall hypersensitivity, while also being prone to interpersonal turbulence (e.g., unreliable, uncooperative, untrusting of others). This individual may also have difficulty identifying a purpose in life, partly due to a general disinterest or disengagement. Given these personality features, it is also likely that the individual would struggle to manage academic/occupational performance. The above example serves to conceptualize how the Big Five taxonomy can identify individual differences by capturing the type and extent of adaptive or maladaptive traits. To date, various measures have been developed to accurately assess one's personality according to the Big Five model (e.g., Ten-Item Personality Inventory<sup>37</sup>; NEO Five-Factor Inventory<sup>38</sup>; Big Five Inventory<sup>39</sup>).

## **Relationship to Personality Disorders**

With the Big Five, it became possible to not only assess individual differences in personality but to also quantify the extent of an individual's maladaptive personality functioning. These abilities led some researchers to speculate how extreme scores on Big Five trait-domains relate to PDs conceptually. This seemed particularly intuitive, as PDs, by definition, are pervasive and dysfunctional personality patterns.<sup>40</sup> Given the normal distribution of Big Five scores in large populations,<sup>41,42</sup> other researchers theorized that patients' extreme scores (i.e., on the tail-ends of the bell curve) had significant clinical relevance. Costa, Jr. and McCrae,<sup>43</sup> for instance, argued that clinicians could likely assess a patient's pathology and determine a diagnosis on the basis of their Big Five scores.

For example, the Big Five descriptors of extraversion include sociability, dominance, and excitement-seeking (see Table 1.2, p. 8). Conceptually, one could expect that maladaptively high extraversion would positively correlate with PDs that have similar characteristics and negatively correlate with PDs that do not. Clinically, clinicians could infer that a maladaptively high extraversion score could be harmful to the patient's daily behaviour and relationships (e.g., attention-seeking, impulsivity), thus warranting further evaluation.<sup>43</sup>

Indeed, subsequent research investigating the Big Five and PDs supported such hypotheses. Costa, Jr. and McCrae,<sup>44</sup> for example, reported that extraversion positively correlated with histrionic PD and narcissistic PD, and negatively correlated with avoidant PD and schizoid PD. While the former share characteristics of attention seeking, overt grandiosity, and an intolerance of being alone, the latter share characteristics of social withdrawal, low self-esteem, and general disinterest for close relationships.<sup>45-48</sup> That said, there are certain Big Five trait-domains that are generally more conducive of PDs. Upon conducting a meta-analytic review of the studies targeting Big Five and personality disorders, Saulsman and Page<sup>49</sup> concluded that most PDs have a positive correlation with neuroticism and a negative correlation with agreeableness. For clarity (and brevity), the correlational relationships between the Big Five and PDs are summarized in Table 1.3.

Despite their relation, it should be noted the DSM's primary personality model does not conceptualize PDs as comprised of the Big Five, or any personality traits for that matter. Instead, only PDs as a whole are defined. This definition describes PDs as inner experiences and behaviours that are substantially distinct from cultural expectations, are stable and inflexible, and

lead to distress.<sup>50</sup> The DSM’s conceptualization of PDs—and the clinical and societal implications of such conceptualizations—will be discussed in greater detail later (see Chapter 2).

Table 1.3. *Correlations between the Big Five and PDs.*

Big Five trait-domain	Associated PDs	
	Positive correlation	Negative correlation
Openness	Histrionic; Narcissistic; Antisocial	Dependent; Schizotypal
Conscientiousness	Paranoid	Histrionic; Antisocial; Schizotypal
Extraversion	Histrionic; Narcissistic	Schizoid; Avoidant; Schizotypal; Borderline
Agreeableness	Dependent; Narcissistic; Borderline	Antisocial; Paranoid
Neuroticism	Avoidant; Dependent; Schizotypal; Borderline	Narcissistic; Antisocial

Note. *This content is based on that of Costa, Jr. and McCrae.<sup>44</sup>*

In summary, the lexical hypothesis initiated an investigation into the fundamental personality traits that are depicted in everyday language. From this, the Big Five emerged, establishing a measure meant to assess a range of five broad personality trait-domains and identify maladaptive patterns. Given the comprehensive range of traits represented by these domains, it was hypothesized that PDs were extreme variants of the Big Five. These hypotheses were largely based on overlapping Big Five descriptors and PD characteristics, such as in the example above involving extraversion and histrionic PD. Although research has supported the theoretical relationship between the Big Five and PDs and shown the drawbacks of a categorical diagnostic model, the latter remains the main diagnostic tool utilized in clinical settings. The categorical model, as well as an alternative, will be the focus of Chapter 2.

## Attachment and Personality

### Insecure Attachment and the Big Five

Shaver and Brennan<sup>51</sup> were considered the first to investigate the relationship between attachment styles/dimensions and personality as measured by the Big Five (e.g., Nofhle & Shaver<sup>52</sup>). This line of research has been further expanded over the last two decades. Nofhle and Shaver<sup>52</sup> provide a useful summary of over 30 studies that reported correlations between the two sets of constructs between 1992 and 2003 (see Table 1, p. 182). Nofhle and Shaver<sup>52</sup> successfully replicated the overall patterns reported in those studies while using updated dimensional measures of attachment (see Table 1.4 below for a summary). Specifically, reproducing findings that both attachment anxiety and attachment avoidance positively correlate with neuroticism and negatively correlate with extraversion, openness, agreeableness, and conscientiousness. Within this shared set, attachment anxiety had a stronger relationship with neuroticism ( $r = .42$  versus  $.14$ ) and conscientiousness ( $r = -.23$  versus  $-.20$ ), while attachment avoidance had stronger relationships with extraversion ( $r = -.21$  versus  $-.15$ ), openness ( $r = -.09$  versus  $-.07$ ), and agreeableness ( $r = -.22$  versus  $-.19$ ). Still, given the minimal difference in the correlations between the dimensions and traits, it is unlikely a particular dimension-trait relationship would warrant greater clinical implications than the others. The exception, however, is the relationship that both dimensions have with neuroticism (i.e.,  $r = .42$  for attachment anxiety versus  $.14$  for attachment avoidance).

Table 1.4. *Correlations between insecure attachment and the Big Five.*

	O	C	E	A	N
Attachment anxiety	-.07**	-.23**	-.15**	-.19**	.42**
Attachment avoidance	-.09**	-.20**	-.21**	-.22**	.14**

Note. *O = Openness; C = Conscientiousness; E = Extraversion; A = Agreeableness; N = Neuroticism; \*\* =  $p < .01$ .*

Given the close relationship between attachment anxiety and neuroticism, several authors have wondered about their conceptual overlap.<sup>53</sup> For example, Nofhle and Shaver<sup>52</sup> report that, historically, attachment anxiety and neuroticism typically have a correlation of at least  $r = .40$ .

According to Cohen (1988, as cited in Morgan et al.<sup>54</sup>), the strength of this relationship is considered within the range of typical to larger than typical. Another example pertains to how both constructs are commonly described: Both attachment anxiety and neuroticism involve a desire for others' acceptance, a tendency toward negative emotionality, negative views of the self, and fragile/poor self-esteem (as discussed above). Research has also connected both constructs as being linked, one way or another, to a broad range of negative outcomes—from a general vulnerability to psychiatric disorders to chronic illness and disease (e.g., stroke, heart attack, high blood pressure).<sup>55–59</sup>

Shaver and Brennan<sup>51</sup> investigated the distinction between attachment and the Big Five as part of their 1992 study. In addition to establishing correlations between the two, Shaver and Brennan found that attachment styles were a greater predictor of long-term relationship outcomes (i.e., status, satisfaction, commitment) than the Big Five. These findings have since been replicated with a contemporary dimensional attachment measure.<sup>52</sup> It can also be noted that the Big Five accounts for only 30% of variance in attachment when gender and relationship status are controlled.<sup>52</sup> Together, these findings indicate that attachment dimensions and the Big Five are related but not the same construct. This distinction is perhaps rooted in the fact that the Big Five is more representative of broad forms of functioning while attachment is relationship-specific.<sup>51</sup> Still, though relationship-specific, it is apparent that attachment needs have an important role in individuals' overall health given the research highlighted above.

### **Insecure Attachment and Personality Disorders**

In reviewing the relationship between attachment and personality, Mikulincer and Shaver<sup>60</sup> suggest the pathways through which insecure attachment can create vulnerability for PDs:

...attachment insecurities create problems in emotion regulation, interfere with the construction of a stable and positive sense of self, disrupt the accomplishment of major developmental tasks, and more or less preclude the maintenance of healthy and satisfying interpersonal relations... all of these problems form parts of, or heighten the risks of, personality disorders [PDs] (p. 436).

Indeed, the notion that insecure attachment is highly relevant to PDs is readily reflected in research. Most broadly, secure attachment is negatively correlated with all of the PDs listed in

the DSM-III-Revised ( $r$  ranged from  $-.19$  to  $-.45$ ).<sup>61</sup> More specifically, attachment anxiety seems to have an average correlation of  $r = .30$  across PDs, with a particularly strong positive correlation to borderline PD ( $r = .42$ ). Comparatively, the strength of correlations between attachment avoidance and PDs is more consistent around the  $r = .20$  mark, with the greatest correlation to schizoid PD ( $r = .29$ ).<sup>62</sup>

These findings are consistent with the general pattern observed by others. Fossati and colleagues,<sup>63</sup> for example, reported that each attachment dimension tends to align more closely with the PDs that have similar primary features. For attachment anxiety, this includes PDs generally characterized by an excessive need for others' support, a discomfort with being alone, and a fear of being abandoned (e.g., dependent PD, borderline PD). For attachment avoidance, this includes PDs generally characterized by negative views of the self and others, limited social interactions, a degree of social anxiety, and perceptions of inadequacy (e.g., avoidant PD, schizotypal PD, schizoid PD).

Research has built upon these correlational findings by investigating the frequency of the different insecure attachment styles across PD groups. For example, in a sample of 1,407 individuals, more than 90% of participants with fearful-avoidant or pre-occupied attachment presented at least one PD. Fearful-avoidant and dismissing-avoidant attachment were particularly prevalent among participants with schizoid PD (in more than 40% of cases).<sup>64</sup> Overall, then, it is clear that the way an individual relates in relationships via attachment can not only be maladaptive to personality functioning but pathological.

### **Recent Conceptual Developments**

In recent years, notable conceptual developments have emerged in attachment-personality research. These include treating attachment as a precursor for personality traits, investigating the flexibility of attachment and personality over time, and the role of attachment in personality changes.

#### **Attachment as a Precursor for Personality Development**

There are three reasons why one can speculate that attachment precedes and shapes personality and, in turn, related pathology. First, consistent with Bowlby's<sup>1</sup> observations, there is a predictable temporal relationship in which attachment develops in the first year of life and sets the stage, so to speak, for personality development. Bowlby<sup>1</sup> argued that infants with insecure attachment lacked role models that projected self-esteem, confidence, reassurance, and

general support. In turn, infants with insecure attachment would be timid of new environments and others, with little-to-no reference for how to manage such fears. With this framework, navigating relationships throughout one's childhood, adolescence, and adulthood would be difficult. He also argued that, because attachment begins in infancy, this framework would facilitate a personality structure that was low in resilience and vulnerable to flaws. Overall, Bowlby<sup>1</sup> considered attachment to have a vital role throughout an individual's life—or, as he put it—from “the cradle to the grave” (p. 176).

Second, recent research supports Bowlby's hypothesis that insecure attachment in infancy has consequences for functioning in adulthood. Young and colleagues<sup>65</sup> were the first to empirically investigate this hypothesis with prospective data in 2017. In filling this gap, the authors assessed the attachment style of first-born children at 12-months and 18-months age and hypothesized what their Big Five scores would be once they reached 32-years age. The results ultimately supported the expected relationship between childhood attachment styles and subsequent adult personality traits. Specifically, compared to secure counterparts, adults who had insecure attachment in childhood scored lower on agreeableness and conscientiousness and higher on neuroticism. With socio-economic differences controlled, these findings support the notion that early attachment environments have a significant role in personality development.

Third, recent findings link insecure attachment in infancy and emotion regulation difficulties in adulthood. Girme et al.<sup>66</sup> conducted a 40-year prospective study that began in the mid-1970s by assessing infants' attachment styles at 12-and-18-months age ( $N = 102$ ). The findings revealed that insecure attachment at such early stages predicted infants' hypo and hyper-regulation strategies 20-35 years later ( $n$  ranged from 35 to 66). These regulation strategies are extensions of hyperactivating and deactivating strategies discussed previously, but in the specific context of conflict. For example, hypo-regulation can involve superficial problem-solving (i.e., ingenuine/disengaged effort in seeking a solution) while hyper-regulation can involve self-centred problem-solving (i.e., focus on how to get a close other to provide one with more attention). Interestingly, these maladaptive strategies were observed behaviourally, with participants and their romantic partners asked to try to resolve an ongoing conflict in their relationship.

Girme et al.'s<sup>66</sup> findings are consistent with Bowlby's hypothesis and the results reported by Young et al.<sup>65</sup> Specifically, the maladaptive hypo/hyper-regulation strategies align with the

general interpersonal difficulties one would expect from being low on agreeableness (e.g., tendency to be cunning) and conscientiousness (e.g., tendency of being rash) and high in neuroticism (e.g., tendency to be self-indulgent). Thus, it seems that insecure attachment in infancy not only persists into adulthood, increasing the risk for interpersonal difficulties, but also leads to maladaptive personality traits that may further exacerbate such difficulties.

In summary, there is evidence to believe that attachment precedes the development of adult personality. Attachment establishes the way individuals perceive themselves and important others (e.g., a parent). With insecure attachment, individuals perceive themselves as incapable of adequately meeting the demands of the social world. This insecure attachment then confines personality development to match one's maladaptive perceptions of the self and others. This notion is demonstrated in research showing insecure attachment in childhood corresponds to higher neuroticism and lower agreeableness and conscientiousness in adulthood—often times reaching pathological levels. While these findings may enhance our understanding of attachment and personality, they also lead to new questions. For example, if attachment sets the foundation for personality, what role does it have in treating personality pathology? Such questions are gaining traction in attachment-personality research (e.g., Slade & Holmes<sup>67</sup>). In the process, traditional views regarding the stability of attachment and pathological personality are being refined.

### **The Stability of Attachment and Pathological Personality**

Bowlby<sup>1</sup> believed that an infant's attachment would be malleable in the first two years of life, only to then solidify and become more resistant to change if all relationships and environments remained relatively unchanged. With this increasingly stable attachment, one's personality structure would also begin to solidify. Bowlby later conceptualized this developmental process as a railway headed toward a metropolis. According to Bowlby,<sup>68</sup> the starting point of the railway represents an infant's attachment. Eventually, this initial railway reaches a split in the tracks, representing personality development. Those with insecure attachment at this point will turn toward the path slightly deviating from the metropolis. If the child's environment is increasingly problematic, they will continue to diverge away from the metropolis as their maladaptive personality worsens. Eventually, Bowlby<sup>68</sup> argued that it will be extremely difficult to return to the track leading to the metropolis.

Historically, attachment and personality researchers have agreed with Bowlby's notions regarding the stability of each construct. Kirkpatrick and Hazan,<sup>69</sup> for instance, considered the stability of attachment styles to be "remarkably high" over a four-year period (p. 135). Meanwhile, Costa, Jr., and McCrae<sup>70</sup> argued that personality reaches its peak stability at age 30 and then serves to provide continuity and predictability to one's life course.

However, there is also evidence which suggests that attachment and personality are more malleable than previously thought. For attachment, one study found that the test-retest reliability of attachment over a six-year period ( $r = .24$  to  $.45$ ) was lower than that over a two-year period ( $r = .40$  to  $.49$ ).<sup>71</sup> More critically, however, the study reported that individuals' baseline attachment style predicted less than 30% of the variance in their attachment in following years. This suggests that the environment has a significant role in shifting one's attachment style. Personality research shows that individuals tend to demonstrate a spiked increase in conscientiousness and emotional stability (i.e., inverse of neuroticism) between ages 30 and 40 (both with a standard mean difference of  $d = .26$ ). Likewise, significant changes are noted in openness ( $d = -.19$ ), conscientiousness ( $d = .22$ ), and agreeableness ( $d = .30$ ) in individuals' 50s and 60s.<sup>72</sup> These findings in attachment and personality research suggest that the two constructs are more malleable than typically believed.

The malleability of attachment and personality are also evident in recent research involving clinical populations. Taylor and colleagues<sup>73</sup> conducted a meta-analysis of studies involving attachment changes within psychological treatment. The authors concluded that clients experience increased secure attachment with treatment—regardless of the methodology (e.g., interview versus self-report), patient group (e.g., specific versus non-specific disorders), therapeutic approach (e.g., dynamic versus cognitive-behavioural), and therapy style (e.g., group versus individual). Interestingly, secure attachment increased even if the given psychotherapy did not emphasize interpersonal relationships (e.g., the therapeutic alliance or early relationships with parents). Overall, this meta-analysis demonstrates that insecure attachment is likely to improve with treatment even if interpersonal dysfunction is not explicitly targeted. Such research has sparked increasing interest into ways of enhancing secure attachment—to the extent that even a grounded theory<sup>74</sup> has been developed to formulate the path towards enhanced attachment security.

Similarly, Roberts and colleagues<sup>75</sup> investigated the stability of personality traits by conducting a meta-analysis on studies involving psychological intervention. The selected studies varied in terms of the presenting disorder/problem, ranging from anxiety and depression to substance abuse and eating disorders. The results of the meta-analysis showed that interventions positively correlated with significant changes in personality traits over a 24-week (6-month) period ( $d = .37$ ). This was particularly true for emotional stability (i.e., the inverse of neuroticism) and extraversion. Moreover, the strength of the association was not dependent on the nature of the intervention (i.e., experimental, non-experimental, clinical, or non-clinical) nor the type of therapy (i.e., pharmacological, cognitive-behavioural, supportive, psychodynamic, hospital, or mixed). These observed personality changes also appeared to have longevity over a 1-year follow-up period.

The significance of the above findings is two-fold. First, and most broadly, if attachment and personality play a significant role in mental health and wellbeing, it is necessary to know how malleable they are within various treatment contexts. Second, if insecure attachment is a foundation for pathological personality and is more malleable, it would be important to investigate whether attachment can be a mechanism of change for pathological traits.

Unfortunately, however, there is no conclusive research comparing the malleability of attachment and personality. Thus, the assumption that attachment is more malleable than pathological personality is based in theory. For one, although insecure attachment characteristics are certainly maladaptive, they are not considered symptoms of a diagnosable condition (i.e., not in themselves pathological). Instead, such characteristics are indications of an individual's thoughts and behaviours as they relate to the relationships in their immediate environment.<sup>76</sup> With this view, it seems reasonable that non-clinical constructs would be more malleable than clinical constructs. This is exemplified, in part, in research showing that greater commitment (e.g., trust, dedication) within relationships eventually weakens insecure attachment systems among those affected.<sup>77</sup> Thus, it seems that the working models of attachment can be reshaped if challenged by one's environment. This notion is now receiving additional traction in attachment-personality research.

### **Changes in Attachment Correspond to Changes in Personality**

If attachment is a foundation for adult personality, it would then be reasonable to speculate that changing attachment can be an effective means of changing personality.

Furthermore, in clinical settings, this possibility might provide clinicians another tool aimed to improve health outcomes impacted by rigid personality styles. Yet, despite such theoretical and empirical evidence between the two constructs, PD treatment rarely considers the role of attachment.<sup>78</sup> Indeed, to date, only a handful of recent studies explore attachment changes throughout PD treatment, with only one exploring how such changes predict outcomes.

The most pertinent example of how attachment changes may correspond to changes in PD treatment involves mentalization-based therapy (MBT)—an attachment-based treatment for PDs.<sup>79,80</sup> MBT focuses on the ability to distinguish one’s thoughts and feelings from those of close others (i.e., *mentalization*) upon traumatic interpersonal experiences in childhood and/or adulthood.<sup>81</sup> Recent research involving MBT and attachment measures shows that MBT increases secure attachment while decreasing borderline PD symptoms and general psychological distress. For example, Bo and colleagues<sup>82</sup> studied group MBT with adolescents and found that increases in attachment with their peers and parents corresponded to their overall treatment outcomes. Elsewhere, Hauber and colleagues<sup>83</sup> reported that their entire adolescent sample ( $N = 60$ ) experienced significant improvements toward secure attachment, with the number of participants with secure attachment increasing by 24.2% after approximately one year of MBT treatment.

Though MBT seems to be a promising attachment-based intervention for PDs, it is still important to consider the possible alternative mechanisms of change. Specifically, could patients’ secure attachment improve as a result of the treatment addressing their symptoms of depression, anxiety, and PD? While this is possible, there are more reasons to believe that facilitating secure attachment contributed to the decrease of other symptoms.

As discussed previously, research has demonstrated the predictive relationship between secure attachment in early life and mental health in adulthood. This includes research showing that insecure attachment predicts both depressive and anxiety symptoms, with attachment also suggested as a likely mechanism of change in both cases.<sup>84,85</sup> Such suggestions align with findings showing that MBT produces greater reductions to distress from secondary symptoms than other common psychotherapies for PDs.<sup>86–88</sup> Two recent systematic reviews found that this efficacy also extends to primary psychiatric symptoms related to borderline PD.<sup>86,89</sup> Given that MBT is unique to PD treatments in its attachment-based approach,<sup>90–92</sup> these results add to the

possibility of attachment being a mechanism of change for maladaptive and/or pathological personality.

Building off such findings, Levy and colleagues<sup>93</sup> wanted to investigate if changes in attachment were predictive of treatment outcomes. To do this, the authors obtained the statistical data used by other researchers to report pre-and-post changes in attachment following psychotherapy. Ultimately, their obtained data included 36 studies that measured attachment before and after a treatment. Of the 36, only 11 included a personality measure and only 2 included a primary PD diagnosis (avoidant PD and borderline PD). Moreover, this collection of studies ranged in psychotherapy type, duration, and diagnoses. Levy and colleagues' analysis revealed that improvements in anxious and avoidant attachment styles predicted changes in personality and symptoms ( $r$  ranged from .15 to .29,  $d$  ranged from .30 to .61). This finding led them to argue that changing attachment in patients with PDs should be one of clinicians' goals in treatment. Unfortunately, while indeed promising, there still remains a lack of research with clinical populations that can support their observation.

Recall earlier that Bowlby conceptualized attachment in an infant's development as a railway headed toward a metropolis, upon which personality represents a possible split in the tracks aimed away from the desired destination. At a certain point, Bowlby argued that returning to the main track would be extremely difficult. Indeed, it is reasonable to believe that individuals suffering from greater personality pathology will require greater treatment resources. However, as a whole, it also seems feasible that incorporating attachment-building strategies to treatment for PDs could contribute to positive outcomes. If to re-shape Bowlby's metaphor, it could be appropriate to conceptualize attachment to personality like what oil is to a car. Just like how low-grade oil will be disruptive to a car's engine in the long run, insecure attachment will be disruptive to one's personality functioning. Unless the quality of the oil is improved, the engine will continue to deteriorate—eventually to the point that one may not be able to reach the metropolis. Conceptually, attachment may be a mechanism of change for personality because it involves a more refined set of characteristics that are, for the most part, specific to interpersonal relationships. Relatedly, as a clinician, it is probably easier to model secure attachment than a 'healthy' personality profile.

## **Summary**

Attachment and personality are inherently linked constructs that are critical to interpersonal functioning and well-being more generally. According to Bowlby, attachment in infancy sets a foundation upon which personality develops. While attachment and personality were considered relatively stable throughout the life, recent research suggests that both constructs are more malleable than traditionally believed. This might be particularly true with attachment. Theoretically, then, it is possible that attachment can be an effective mechanism for changing personality pathology.

However, as research continues to investigate attachment as a mechanism of personality change, it is critical to acknowledge the paradigm shift within the personality field involving the conceptualization of personality pathology. Chapter 2 focuses on this paradigm shift, providing a brief introduction of the traditional categorical model and its strengths and limitations. Similarly, the utility of the new alternative model—the dimensional-categorical or hybrid model—will also be discussed.

## Chapter 2: Conceptual Models of Personality Disorders

### Categorical Model

Despite the empirically established relationship between the Big Five and personality pathology, the DSM-5 still endorses a categorical model of PDs for clinical purposes (see Table 2.1 for DSM-5 criteria). When applied to each type of PD, this categorical model uses pre-defined thresholds to make the distinction between a clinical diagnosis of PD versus not. These thresholds create distinct edges between disorders, utilizing an ‘all or nothing’ approach that intends to find a size that fits all. For instance, each PD criteria requires that a patient presents the minimum number of required symptoms that comprise said PD. Antisocial PD, for example, requires three of seven Criterion A symptoms, borderline PD requires five of nine, and avoidant PD requires four of seven (see Table 2.2 below for borderline PD criteria). This symptom-based threshold system is based on the idea that mental health has distinct boundaries of *normal* and *abnormal* functioning.<sup>94</sup> Specifically, that normal and abnormal functioning can be inferred from presenting less/more than the minimum required Criterion A symptoms for a given PD.

Table 2.1. *Criteria for general PDs via the categorical model.*

Criterion	Description
A	The personality pattern must significantly deviate from what can be expected in one’s culture, and must manifest in at least two of the following: cognitively, affectively, interpersonally, or through impulse control.
B	The pattern is generally consistent and pervasive.
C	The pattern leads to significant distress and/or functional impairment.
D	The pattern is considered chronic, stemming from adolescence or early adulthood.
E	The pattern is not better explained by the presence of another disorder.
F	The pattern is not the result of a substance.

*Note.* This content is retrieved from APA.<sup>50</sup>

Table 2.2. *Criteria for borderline PD via the categorical model.*

Criterion	Description
1	Frantic efforts to avoid real or imagined abandonment.
2	A pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation.
3	Identity disturbance: markedly and persistently unstable self-image or sense of self.
4	Impulsivity in at least two areas that are potentially self-damaging (e.g., spending, sex, substance abuse, reckless driving, binge eating).
5	Recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior.
6	Affective instability due to a marked reactivity of mood (e.g., intense episodic dysphoria, irritability, or anxiety usually lasting a few hours and only rarely more than a few days).
7	Chronic feelings of emptiness.
8	Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights).
9	Transient, stress-related paranoid ideation or severe dissociative symptoms.

*Note.* This content is retrieved from APA.<sup>50</sup>

This normal/abnormal categorical model of mental health was formally introduced in the DSM-III with the goal of returning psychiatry to a medical foundation.<sup>95</sup> Prior to the DSM-III, psychiatrists were predominantly trained in psychoanalysis, which aimed to understand the etiology of mental illness by interpreting the unconscious determinants of behaviour rooted in developmental challenges. Given the rather subjective nature of psychoanalysis, most psychiatrists became disinterested in using diagnostic labels within clinical settings, making professional communication difficult. So much so, that the construction of the DSM-III was generally irrelevant or not of interest to many psychiatrists and clinicians throughout the field. This overall disinterest allowed the APA president at the time, Judd Marmor, to give full autonomy to Robert Spitzer as the head of the Nomenclature and Statistics Task Force. As two

psychoanalysts turned critics, Marmor and Spitzer began drafting a DSM that focused on identifying disorders rather than debating their origin (See Strand<sup>96</sup> for a complete review).

### **Advantages**

The categorical model offers various advantages that helped it prevail through the DSM-III to the current DSM-5. Most broadly, the categorical model provides a clear and efficient synthesis of clinical observations that distinguish one disorder from another.<sup>97</sup> With help from the criterion system, these clear boundaries facilitate a straight-forward treatment planning process in which those who appear to meet DSM criteria for a PD will be provided treatment.<sup>94</sup>

This categorical approach is argued to be particularly intuitive as well. For psychiatrists, categorical ways of organizing large sums of information (e.g., differences between disease presentations) are often part of medical training.<sup>98</sup> For example, Smith<sup>99</sup> describes a colleague who initially underestimated the relevance of the categorical model in practice but ultimately found the framework implicitly useful: "...when she is thinking about diagnoses, she may not be directly referring to DSM, but those DSM categories...are there in her mind. They have become a major, if not the predominant, way of making sense of patients' symptoms" ("The Weight of the DSM," para. 9). More generally, the categorical model may represent an innate way of organizing the world for not only psychiatrists but laypersons as well. Simonsen<sup>98</sup> uses the broadest taxonomy of the ecosystem (i.e., living versus non-living) and children's acquisition of cognitive maps (e.g., Piaget's stages of cognitive development) as general examples of such categorical thinking in everyday life. Thus, one advantage of a categorical taxonomy is that it is universally user friendly.

The categorical model is praised by some for increasing the reliability of the diagnoses. For example, Simonsen<sup>98</sup> argues that "much effort has been put into strengthening reliability. It is one of the major advantages since the introduction of the DSM-III that psychiatric diagnoses have become more reliable" (p. 352). Indeed, reliability analyses are one example of how introducing distinct categories could facilitate research.<sup>97</sup> However, as mentioned previously, the psychoanalytic approach that dominated psychiatry prior to the development of the categorical model did not prioritize a diagnostic or otherwise classification approach. The strength of arguments that the categorical system improved diagnostic reliability, such as Simonsen's, may be relative to the lack of criteria or overall diagnostic interest prior to the DSM-III. Unfortunately, later research revealed more fundamental problems with the categorical model

and, by extension, the subsequent DSM editions that employed/employ it. The categorical model’s advantages and disadvantages (which will be discussed now) are summarized in Table 2.3 below.

Table 2.3. *Summary of advantages and disadvantages of the categorical model.*

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Synthesis of clinical observations that distinguish disorders</li> <li>• Facilitates straight-forward treatment eligibility</li> <li>• Intuitive</li> <li>• Provides framework for PD-specific research</li> <li>• Increased reliability (relative to DSM-II)</li> </ul>	<ul style="list-style-type: none"> <li>• Unfounded claims of reliability</li> <li>• Arbitrary and/or outdated diagnostic thresholds</li> <li>• Excessive diagnostic comorbidity</li> <li>• Inadequate coverage of pathology</li> <li>• Heterogeneity among those diagnosed with the same PD</li> </ul>

**Limitations**

Kirk and Kutchins<sup>100</sup> published an article titled “The myth of the reliability of DSM” which argues that the scientific claims made by the APA are unfounded. For example, the article<sup>100</sup> quotes multiple paragraphs from the DSM-III claiming that the categorical model exceeded expectations in its diagnostic reliability, far surpassing that of its predecessors (see p. 79, para. 3). In response, Kirk and Kutchins<sup>100</sup> state the following:

...they [DSM-III developers] were making a comparison [to DSM-I and II] that appeared to be concrete and verifiable. Surprisingly, no specific citation was offered for this conclusion; it was assumed that the reader... would readily accept these new findings... Ironically, no study of the manual ever directly compared DSM-III with earlier versions (p. 80).

The authors continue to discuss how the developers promoted the categorical model as a means of addressing unreliable diagnoses in the DSM-I and II, which, according to the developers, represented an active threat to psychiatry’s legitimacy. Keeping with a critical theme, Kirk and Kutchins<sup>100</sup> state that “It is no surprise, then, that when the DSM-III was published, the

developers claimed that the problem they set out to solve—reliability—was indeed greatly improved” (p. 80). While some may interpret these passages as particularly skeptical, the authors accurately forecast the growing dissatisfaction with the categorical model to present day.

Indeed, because the DSM-5 remains largely based on the DSM-III’s diagnostic system, some authors conclude that diagnoses have not become more statistically reliable in the last 40 years.<sup>101</sup> For example, the DSM-III-Revised (published 7 years after the DSM-III) has similar kappa scores to those reported for the DSM-I and II—and even lower scores in some collection sites.<sup>100</sup> Another study found that, when comparing identical diagnoses, the DSM-5 (published 33 years after the DSM-III) had lower test-retest reliability than that reported in the DSM-III-Revised and DSM-IV (published 14 years after the DSM-III).<sup>102</sup> While some have noted that methodological differences have affected how reliability analyses are interpreted (e.g., audio/video-recording versus test-retest methods<sup>102</sup>), others note that flawed methodologies have made even the most promising findings invalid (e.g., diagnoses are of the same broad disorder class versus diagnoses are of the same specific disorder<sup>100</sup>). In any case, the categorical model has produced a rather lengthy list of other practical issues throughout the decades that cannot be ignored.

There are four prominent issues that are a by-product of the categorical model. First, the model’s diagnostic thresholds are often considered arbitrary or outdated.<sup>103</sup> According to Widiger and Trull,<sup>103</sup> the APA has not publicly discussed the rationale or provided any support for their diagnostic thresholds. This is corroborated by Krueger’s<sup>104</sup> description of his experience as a member of the DSM-5’s PD Work Group. Seemingly simple questions—such as why the DSM-IV comprised borderline PD of nine criteria with a minimum diagnostic threshold of five—could not be answered by the APA. Such experiences lead Krueger<sup>104</sup> to conclude that the thresholds have “negligible empirical basis and are essentially arbitrary” (“Arbitrary Thresholds,” para. 1). This is particularly alarming, given that the DSM-IV’s categorical model was ultimately re-used in the DSM-5 with no significant change to criteria.<sup>105</sup>

Second, the categorical model has a well-documented issue with excessive diagnostic comorbidity.<sup>103</sup> Stuart et al.,<sup>106</sup> for instance, reported notably high odds ratios (OR) between paranoid and schizotypal PDs (OR = 14.29), schizoid and schizotypal PDs (OR = 14.12), and histrionic and narcissistic PDs (OR = 13.65). The study also revealed that histrionic PD has a very high percent co-occurrence with paranoid PD (66.7%) and avoidant PD (72.7%). Another

study reported that schizoid PD co-occurs in about one-third of patients with borderline PD (36.7%) and dependent PD (32.3%). Moreover, that being diagnosed with schizoid PD significantly increases the odds of developing any other PD in one's lifetime (OR = 19.00), particularly any of those within Cluster B (OR = 21.7).<sup>107</sup> Overall, the high diagnostic comorbidity (or co-occurrence) of PDs contradicts the underlying vision of the categorical model—that is, that disorders are “qualitatively distinct clinical syndromes” (APA,<sup>50</sup> p. 646). From a theoretical perspective, such findings indicate that PDs generally share more features than not. This implication is also represented by the next issue with the categorical model.

Third, the categorical model is criticized as providing inadequate coverage of pathology, resulting in the over-use of diagnoses that are *not otherwise specified* (NOS).<sup>103</sup> The DSM-5 considers NOS diagnoses as situations in which a patient meets general criteria for a PD (i.e., Criterion B-F, see Table 2.1, p. 24) but not the threshold for any specific disorder. Moreover, a NOS diagnosis can be given if a patient meets general criteria and is considered to have a PD not in the DSM-5 classification (e.g., passive-aggressive PD).<sup>50</sup> Johnson and Levy<sup>108</sup> note that NOS diagnoses were intended to be rare but have become one of the most commonly used diagnoses of personality in clinical settings. This is problematic, with the NOS diagnosis now often referred to as a “catch all” (e.g., Esbec & Echeburúa,<sup>109</sup> p. 5) and a “vague” (e.g., Hengartner & Lehmann,<sup>110</sup> p. 1) solution. Elsewhere, Rajakannan et al.<sup>111</sup> notes that, between 1999 and 2010, the percentage of patients' office visits to psychiatrists that involved a NOS diagnosis increased from 23.8% to 34.7%. Conversely, this means that full-criteria diagnoses decreased from 76.2% to 65.3% in office visits. The authors considered their findings to be a “wake-up call” for much needed DSM diagnostic improvements (Rajakannan et al.,<sup>111</sup> p. 294).

Finally, the categorical model is known to generate heterogeneity among patients with the same categorical diagnosis.<sup>103</sup> This issue refers to the threshold system upon which Criterion A is based. Each PD requires that a minimum number of symptoms in a given set are present (e.g., borderline PD requires at least five-of-nine pre-defined symptoms). Given this, it is possible to have patients with the same diagnosis who do not share any diagnostic features.<sup>103</sup> In the case of borderline PD, there are 256 theoretical ways of being diagnosed.<sup>112</sup> Among a sample of 930 patients, Johansen et al.<sup>112</sup> identified 136 (54%) of the possible 256 diagnostic combinations—in which only six patients shared the same set of symptoms. Such findings echo

the concerns others voiced regarding the arbitrary nature of the DSM's diagnostic thresholds, as discussed earlier.

### **Conclusions**

The DSM-III was considered revolutionary upon its release. There are many reasons why this reputation is deserved. However, the DSM and its categorical model have led to increasing frustration throughout the decades. The unempirical, and at times bureaucratic, basis of the categorical diagnostic system is at the core of this frustration. This frustration is exacerbated by the APA's decision to keep the model largely unmodified through the DSM-III to the DSM-5—a 33-year timeline. Section III of the DSM-5, however, may be indicative of the APA's long-awaited shift away from the categorical model to a dimensional model, allowing for more refined evaluations. Indeed, based on an empirical foundation stemming back to the lexical hypothesis, the dimensional-categorical model is becoming an attractive diagnostic alternative with promising clinical implications. Still, research examining its clinical utility is in early stages.

### **Dimensional-Categorical Model**

The DSM-5 presents the dimensional-categorical model in Section III as an emerging alternative to the categorical model.<sup>113</sup> The dimensional-categorical model conceptualizes PDs as extreme variants of personality traits that range in normalcy and interaction.<sup>50</sup> In other words, the model conceptualizes pathological traits as existing on a spectrum—in degrees rather than categorically absent or present. This alternative model can be characterized by its first two criterion: (A) Moderate/greater impairment in personal (self/interpersonal) functioning and (B) presenting one or more pathological traits.<sup>113</sup> Criterion A is divided into identity and self-direction (self) and empathy and intimacy (interpersonal). Impairment level is scored on a 4-point scale (0 = Little/no impairment, 4 = Extreme impairment), with each level including three example descriptions. Patients must present at least moderate impairment on any two of the four self/interpersonal domains to satisfy Criterion A. Meanwhile, Criterion B is based on five broad pathological trait-domains with 25 associated trait-facets (see Table 2.4 for a summary).

Table 2.4. *Personality trait-domains and trait-facets in Section III of the DSM-5.*

Trait-domain	Definition	Trait-facets
Negative affectivity	Frequent intense experiences of a wide range of negative emotions and associated behavioural and interpersonal manifestations.	<ul style="list-style-type: none"> <li>• Emotional lability</li> <li>• Anxiousness</li> <li>• Separation insecurity</li> <li>• Submissiveness</li> <li>• Hostility</li> <li>• Perseveration</li> <li>• Depressivity</li> <li>• Suspiciousness</li> <li>• Restricted affectivity</li> </ul>
Detachment	General avoidance of socioemotional experience and restricted affective experience and expression.	<ul style="list-style-type: none"> <li>• Withdrawal</li> <li>• Intimacy avoidance</li> <li>• Anhedonia</li> <li>• Depressivity</li> <li>• Restricted affectivity</li> <li>• Suspiciousness</li> </ul>
Antagonism	Characterized by behaviors that facilitate interpersonal conflict/tension, such as exaggerated sense of self-importance, antipathy for others, and seeing others as a means-to-an-end.	<ul style="list-style-type: none"> <li>• Manipulativeness</li> <li>• Deceitfulness</li> <li>• Grandiosity</li> <li>• Attention seeking</li> <li>• Callousness</li> <li>• Hostility</li> </ul>
Disinhibition	Strong focus on immediate gratification, manifesting in impulsive behaviour and little consideration for consequences or previous actions.	<ul style="list-style-type: none"> <li>• Irresponsibility</li> <li>• Impulsivity</li> <li>• Distractibility</li> <li>• Risk-taking</li> <li>• Rigid perfectionism</li> </ul>

Table 2.4. *Continued.*

Trait-domain	Definition	Trait-facets
Psychoticism	A wide range of unusual behaviours and thoughts that contrast cultural norms.	<ul style="list-style-type: none"> <li>• Unusual beliefs and experiences</li> <li>• Eccentricity</li> <li>• Cognitive and perceptual dysregulation</li> </ul>

*Note.* This content is retrieved from APA.<sup>113</sup>

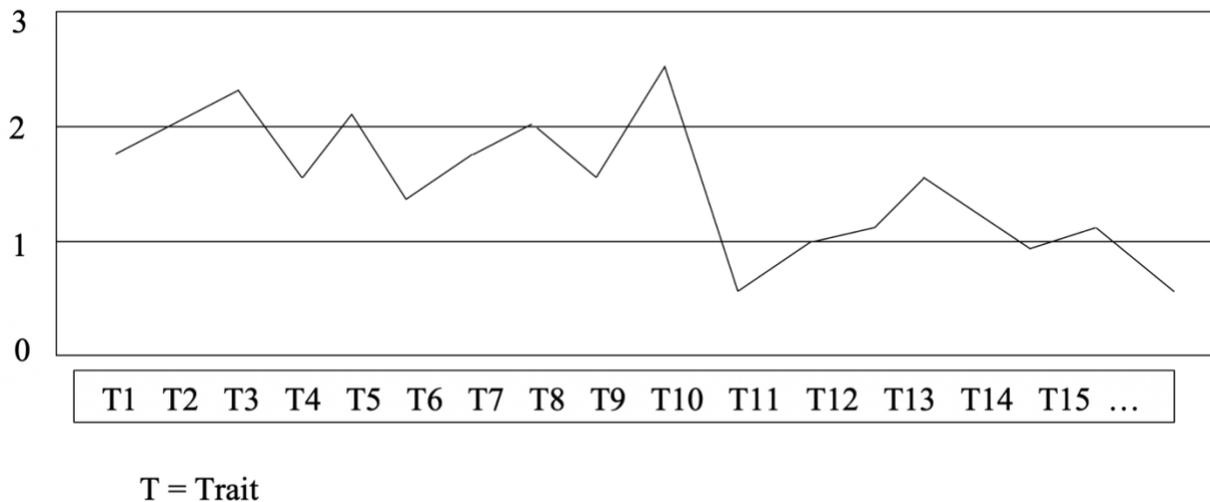
As suggested by its name, the dimensional-categorical model is a compromise between the dimensional and categorical models. While the hybrid model considers pathological traits to exist on a spectrum—in degrees rather than absent or present—the model still employs diagnostic criteria based on thresholds. Each PD is comprised of a set of elevated pathological traits upon which the patient must present a minimum amount required for a diagnosis. Unlike the categorical model, however, the dimensional-categorical model identifies mandatory elevations. For example, borderline PD requires a minimum of four elevated traits in a possible set of seven—with at least one of the minimum four elevated traits being impulsivity, risk taking, or hostility. Despite the need for diagnostic cut-off scores, Section III of the DSM-5 does not provide any specific protocol for determining trait elevations. Instead, the DSM somewhat vaguely states that patients’ scores on trait-facets and trait-domains could be compared to the norms of one’s immediate population. Moreover, if a patient’s scores on any trait-facets or trait-domains exceed such norms, the DSM mentions that additional clinical interviews and judgements can be used to determine whether criterion B is met.

The Personality Inventory for the DSM-5 (PID-5) was developed alongside the hybrid model to assess the extent of a patient’s pathological personality and determine whether a diagnosis is appropriate. The PID-5 assesses the five trait-domains and the 25 associated trait-facets via 220 items. Patients rate themselves according to the extent the item descriptor (e.g., “I feel like I act totally on impulse”) applies to them using a 4-point scale (0 = Very/often false, 1 = Somewhat false, 2 = Somewhat true, 3 = Very/often true). When scoring the PID-5, average scores on each trait-facet (e.g., items 6, 15, 63, 202 for submissiveness) are generated. A similar process is followed for trait-domain scores, in which the average of the trait-facets that comprise each trait-domains are calculated. Samuel and colleagues<sup>114</sup> recommend two ways to determine

whether a trait is elevated. First, one can consider average scores on trait-facets or trait-domains of 2 or higher (i.e., corresponding to at least “Somewhat true”) to be clinically elevated. Second, one could use norms to calculate  $t$  scores with  $t > 65$  as a guideline for significant elevation. This guideline, as the authors argue, represents scores in the top 7% in the normal distribution of trait scores and has been commonly used in other clinical personality measures. Though, either way, Samuel and colleagues<sup>114</sup> found both approaches to generate equally accurate diagnostic outcomes.

Waugh and colleagues<sup>115</sup> provide a helpful example of how a clinician can use the dimensional-categorical model to assess a patient’s pathological personality. In doing so, they also demonstrated how a sample of 25 clinicians not formally trained with the hybrid model can derive the same diagnostic outcome from a short case vignette. Moreover, Waugh and colleagues’ example demonstrates how a trait-based model provides a comprehensive summary of a patient’s personality that can be illustrated visually on a graph (see their example on Figure 1 on p. 86; Figure 2.1 below is an adapted version). In their hypothetical scenario, Mr. Z was diagnosed with clinical elevations in the following trait-facets: anhedonia, anxiousness, depressivity, emotional lability, grandiosity, hostility, restricted affectivity, submissiveness, and separation insecurity—with peak elevations on intimacy avoidance and withdrawal. According to Section III of the DSM-5, such would warrant a diagnosis of avoidant PD and borderline PD.

Figure 2.1. *A hypothetical trait-facet profile.*



Note. *This figure is adapted from Waugh et al.*<sup>115</sup>

It should also be noted that assessing Mr. Z's personality scores with the dimensional-categorical model can also reveal elevations that are clinically relevant despite not necessarily being above norms. For example, as per Figure 1 in their article, a clinician can note that Mr. Z's ranking on the trait-facet suspiciousness may be an additional factor contributing to his diagnoses and daily social challenges. This is one example of how the dimensional-categorical model still adheres to its conceptualization of personality pathology as a mixture of extreme variants that range in normalcy (i.e., as dimensional).<sup>50</sup> To this end, the inclusion of the dimensional-categorical model represents a significant step for the APA toward a more empirically based diagnostic system. Yet, despite increasing support throughout the decades, the process of incorporating the alternative model into the DSM was highly controversial. This complex process is recounted in detail by Zachar, Krueger, and Kendler.<sup>105</sup>

Indeed, upon interviewing those heavily involved in developing the DSM-5, Zachar, Krueger, and Kendler<sup>105</sup> characterize the drafting of the dimensional-categorical model as “a story of shifting expectations, conflicting goals, and fractured alliances” (p. 1). A work group was created to develop a proposal for a new model of PDs to be used in the DSM-5. This group was called the Personality and Personality Disorders Work Group (P&PDWG). Although the group agreed on a need to propose a more dimensional approach to PDs, little agreement followed throughout the rest of the drafting process. Zachar and colleagues<sup>105</sup> describe the group as being divided on almost every topic, from the value of clinical experience, how to evaluate existing research, and even how detailed the proposal should be. Eventually, the APA created a committee with the primary purpose of overseeing the P&PDWG's progress. But even so, there was still an increasing perception that the work group was isolating itself from the larger community of personality experts not formally involved in the revision process. Ultimately, with the drafting process becoming increasingly dishevelled until the end, Zachar and colleagues<sup>105</sup> concluded that not a single individual involved had a grasp of all the details that transpired.

In many ways, it is surprising that drafting a proposal for a dimensional model was as contentious as it was. Interest and support in dimensional conceptualizations of PDs can be traced back to the 1980s, concurrent to the initial release of the categorical model. Widiger,<sup>116</sup> for instance, compiled a table (see Table 1, p. 288) of articles published between 1980 and 1991 that explicitly advocated for either a categorical or a dimensional model. Of 36 articles, 19 favored a dimensional model and only five favoured the categorical (12 were undecided). This

preference prevailed into the early 2000s—with 74% of surveyed PD experts believing the categorical model should be replaced, to which 80% voted for a dimensional conceptualization as its replacement.<sup>117</sup> Statistically, Meehl<sup>118</sup> argued that all diagnostic criteria should be based on taxometric analyses rather than committee discussions regarding clinical observations. Meehl<sup>118</sup> was particularly skeptical of the latter, describing such committee-based decisions as “not good science” and likely improving convenience rather than theoretical comprehension (p. 267). Given this overall momentum, many expected the DSM-5 to finally replace the categorical model with a dimensional one. Despite the efforts of the P&PDWG, the APA decided to retain the categorical model—virtually unedited—in the final weeks of the DSM-5’s revision process. Moreover, rather than a purely dimensional approach, an alternate hybrid (i.e., the dimensional-categorical) was listed in Section III (See APA<sup>113</sup>) as an emerging model.<sup>105</sup>

There are many factors that disrupted the P&PDWG’s vision for a dimensional model for the DSM-5. This includes, but is not limited to, various allegations of secrecy and conflicts of interest, differing opinions within the P&PDWG itself, and disagreements as to the amount or quality of evidence needed to replace the categorical model.<sup>105,119</sup> Overall, the P&PDWG did not achieve their goal of replacing the categorical personality section of the DSM. That said, the inclusion of the hybrid model in Section III still represents an official alternative and thus competitor to the flawed categorical model.<sup>105</sup> Indeed, with empirical roots in the Big Five, the dimensional-categorical model provides helpful solutions to key issues within the categorical model.

### **Advantages**

One strength of the dimensional-categorical model is its empirically supported validity and reliability. In fact, this strength was perhaps first identified in the mid-to-late 1980s in a collection of studies analyzing PD data with categorical (i.e., DSM-III) and dimensional conceptualizations (in terms of the total number of criteria met).<sup>116</sup> These studies demonstrated that analyses with dimensional conceptualizations had richer validity and reliability information than analyses with categorical conceptualizations. This suggests that analyzing disorders categorically results in a loss of information. In this sense, categorical analyses of PDs have been compared to a physician reporting patients’ blood pressure as unhealthy but without any further quantitative reference.<sup>116</sup>

As previously mentioned, the PID-5 is the formal scale developed to measure the hybrid model's five trait-domains. In contrast to previous DSMs, the goal of the PID-5 was to provide an empirical means of measuring PDs as operationalized in the new hybrid model.<sup>120,121</sup> The PID-5 succeeded in this regard. For example, Krueger et al.<sup>120</sup> reported good-to-excellent Cronbach's alpha values for a clinical and a normal sample across the 25 trait-facets (clinical sample ranged from .73 to .95; normal sample ranged from .72 to .96) and across the five trait-domains (clinical sample ranged from .89 to .96; normal sample ranged from .84 to .96). These reliability coefficients have been replicated since being published in 2012 (e.g., Bach, Sellbom, & Simonsen<sup>122</sup>). Overall, the reliability of the hybrid model is considered acceptable and precise, especially given the number of trait-facets it is designed to measure.<sup>121</sup>

A direct comparison of diagnostic reliability between the hybrid model and the categorical model can be difficult, given opposite conceptualizations of PDs (i.e., blended versus distinct). In fact, to the current author's knowledge, the Cronbach's alpha for specific PD diagnoses via the hybrid model are not reported in research. Still, the Cronbach's alpha values for PDs via the categorical model (as measured by the Diagnostic Interview for DSM-IV Personality Disorders) range from .47 to .87.<sup>123</sup> This range is lower than the alpha values for the PID-5's trait-domains (.89 to .96) and trait facets (.73 to .95) for a psychiatric sample. Although not a conceptually equivalent comparison, this difference suggests that the PID-5's trait domains and associated facets are more internally consistent in measuring pathological personality than the categorical model's criteria based on symptom pervasiveness.

Historically, the empirical basis for the categorical model has been missing.<sup>103,104</sup> This is not the case with the alternative model. Section III<sup>113</sup> describes the model's five broad pathological trait-domains as "maladaptive variants of the five domains of the extensively validated and replicated personality model known as the Big Five" (p. 773). This description echoes what others had long speculated. For example, Costa, Jr. and McCrae<sup>43</sup> envisioned Axis II of the DSM as comprised of the Big Five in 1992. In 2009, Widiger and Mullins-Sweatt<sup>31</sup> provided a step-by-step proposal as to how the Big Five can be used in the DSM-5. Such perspectives were in part based on findings consistently correlating the Big Five with PDs.<sup>49</sup> More recently, one study used an exploratory structural equation modeling procedure between various measures of the Big Five and the hybrid model's proposed five-factor structure.<sup>124</sup> The findings revealed common groups of openness-psychoticism, conscientiousness-disinhibition,

extraversion-detachment, agreeableness-antagonism, and neuroticism-negative affect.

Elsewhere, research has established correlations between all the trait-domains in the Big Five and the trait-domains of the hybrid model.<sup>125</sup> These findings are reproduced in Table 2.5 below.

Table 2.5. *Correlations between the Big Five and pathological personality trait-domains.*

	O	C	E	A	N
Negative affectivity	-.10	-.31	-.24	-.23	.77
Detachment	-.10	-.36	-.69	-.52	.44
Antagonism	.19	-.19	-.05 <sup>x</sup>	-.48	.01 <sup>x</sup>
Disinhibition	.08 <sup>x</sup>	-.72	-.23	-.36	.40
Psychoticism	.26	-.41	-.33	-.43	.35

Note. *This content is based on that of Thimm, Jordan, and Bach.*<sup>125</sup> *O = Openness; C = Conscientiousness; E = Extraversion; A = Agreeableness; N = Neuroticism. Values with an <sup>x</sup> represent non-significant values in which  $p > .05$ .*

The theoretical basis of the hybrid model also helps address issues of excessive diagnostic comorbidity by decreasing the number of listed PDs.<sup>126</sup> Instead of 10 PDs, the hybrid model provides classifications for six: antisocial, avoidant, borderline, narcissistic, obsessive-compulsive, and schizotypal (thus removing paranoid, schizoid, histrionic, and dependent PDs). DSM-5 Work Group members and advisors judged the retained disorders to have sufficient evidence for their clinical utility and external validity.<sup>127</sup> Skodol et al.<sup>127</sup> discuss in detail the relevant literature that helped decide which disorders to retain for the hybrid model. Dependent PD, for example, was not retained because it primarily involves moderate-to-low impairment and is, in fact, a representation of the traits dependency-incompetence and attachment-abandonment.<sup>127</sup> With these traits being a core component of other PDs, it is not surprising that dependent PD has a history of comorbidity issues with the Axis II disorders—those in Cluster C in particular.<sup>128</sup> Now, the hybrid model represents dependent PD not as a classification but rather by elevated negative affectivity and its submissiveness and separation insecurity trait-

facets.<sup>127</sup> If present, these elevations can be noted as PD trait-specifiers (PD-TS) for a disorder, such as avoidant PD.<sup>113</sup>

The alternative model's PD-TS mechanism also helps resolve issues of inadequate coverage with the categorical model. As discussed above, this issue involved overuse of the vague and catch-all NOS (not otherwise specified) diagnoses.<sup>103</sup> Like the NOS, the PD-TS is designed for instances in which a patient is considered to have a PD but does not meet the requirements of any classification.<sup>113</sup> Unlike the NOS, however, the PD-TS allows clinicians to note specific trait elevations that are clinically relevant—whether the patient already has a diagnosis or not.<sup>113</sup> For example, obsessive-compulsive PD requires three-of-four specific trait elevations, one of which must be rigid perfectionism (a trait-facet of detachment). Although not part of the criteria, the hybrid model acknowledges that certain trait-facets in negative affectivity can still be indicative of obsessive-compulsive PD. Thus, if a patient presents elevations in rigid perfectionism, one of the other two criteria traits, and anxiousness (a trait-facet of negative affectivity), they can be diagnosed as *PD-TS with anxiousness supporting the diagnosis of obsessive-compulsive PD*.<sup>113</sup> In all, the PD-TS is a tool that ensures that all clinically-relevant aspects of a patient's personality are account for and clearly presented.

Finally, the hybrid model aims to resolve the issue of heterogeneity among diagnosed patients. To the current author's knowledge, there are no studies comparing the frequency of PD-TS and PD-NOS diagnoses. However, the hybrid model's adjusted threshold criteria appear to be a reasonable solution to the heterogeneity issue. For instance, four of the six retained disorders require specific traits to be elevated.<sup>113</sup> These required traits represent the 'core' of the respective PD that was absent in the categorical model.<sup>112</sup> More generally, however, the six classifications have higher thresholds than Section II. Three examples of this are (compared to the categorical model): antisocial PD requires at least six-of-seven criteria (versus at least three-of-seven); avoidant PD requires at least three-of-four criteria (versus at least four-of-seven); and obsessive-compulsive PD requires at least three-of-four criteria (versus at least four-of-eight).<sup>113</sup> These thresholds lower the number of possible ways a patient can meet criteria for a given disorder. From a statistical perspective, the proportion of variance in the DSM-IV PDs accounted for by the retained six disorders is considered adequate to excellent,<sup>129</sup> while still being diagnosed less frequently.<sup>114</sup> This suggests that the hybrid model, with its empirical roots

in the Big Five, provides more precise diagnoses than the categorical model that, in turn, increases homogeneity among those diagnosed.

This precision also appears to have increased clinicians' practical preference for the hybrid model. Indeed—initially, many feared that the alternative model would be too complex for general clinical use.<sup>130</sup> However, research has since demonstrated that not to be the case. One 2014 study, for instance, surveyed 337 mental health professionals regarding the clinical utility of the two models.<sup>131</sup> The alternative model's pathological trait ratings were considered to have greater clinical utility than the categorical model on five of six criteria: communication with patients, comprehensiveness, ease-of-use, descriptiveness, and utility for treatment planning. On the sixth criteria, communication with other professionals, the hybrid model was deemed equally useful. Other recent studies complement these findings and, together, suggest that the benefits of the alternative model are becoming increasingly embraced by the mental health community. A recent 2019 survey of PD experts, for example, showed a strong preference for the hybrid model and against the categorical, in which 182 (50.4%) experts favored the former and only 37 (10.4%) the latter. In fact, more people favored a purely dimensional model (142, 39.3%) than the categorical model.<sup>132</sup> Meanwhile, research now demonstrates how learnable the alternative model is, with student-clinicians capable of generating good rater reliability with expert raters across Criteria A and B.<sup>133</sup>

Lastly, it is important to briefly consider how a trait-based model of personality pathology could impact societal views on PDs. A recent review<sup>134</sup> highlighted research suggesting that PDs may be more stigmatized than any other psychiatric diagnosis. The authors suggested that this may be in part due to the general public's lack of knowledge or familiarity with PDs. With this lack of knowledge, laypersons become more likely to misattribute PD-related behaviour as being 'difficult' or 'misbehaving.' As an example, the review cites a study demonstrating that, in a vignette, only 2.3% of people could identify borderline PD symptoms—yet, 72.5% could identify depressive symptoms (Furnham et al., 2015, as cited by Sheehan, Nieweglowski, & Corrigan<sup>134</sup>).

Compared to a categorical model, it is reasonable to believe a trait-based model of personality pathology can help reduce the stigmatization of PDs. In the categorical model, an individual either has a PD or does not—and thus, if adhering to the model's roots in the medical model, are normal or abnormal. A trait-based model, on the other hand, uses 25 trait-facets to

provide a more detailed assessment of personality. Conceptually, this difference can be equated to being told your car needs to be repaired versus being told exactly why your car needs to be repaired. If a lack of knowledge is a key contributor to the stigma of PDs, the comprehensive nature of a trait-based model seems inherently more conducive to learning about personality pathology compared to the categorical model.

Making it easier to learn about PDs may be particularly helpful in combating self-stigmatization, too. For example, research shows that personality (as per Big Five) not only contributes to an individual's personal identity<sup>135</sup> but also their perceived sense of community.<sup>136</sup> Thus, it is likely important to convey the notion that treating a PD is not equivalent to treating the *person* (i.e., the person is not the disorder) but rather a specific set of elevated traits. This notion is consistent with how the dimensional-categorical model conceptualized personality pathology—that is, as extreme variants of otherwise normal forms of thought, behaviour, and experience. As demonstrated above, the dimensional-categorical model allows clinicians to present a patient's scores on pathological traits on a graph. Doing so provides the patient with a visual representation of their traits and how specific trait-facets can be contributing to their distress.

More broadly, the five trait-domains in the dimensional-categorical model may be useful to the general population (rather than only individual laypersons) in understanding PDs. For example, borderline PD can be generally thought of as high negative affectivity and disinhibition, avoidant PD as high negative affectivity and detachment, and antisocial PD as high antagonism and disinhibition. This idea that laypersons could use the broad trait-domains as a general framework to conceptualize different PDs seems plausible, given that laypersons have demonstrated a sufficient understanding of the Big Five.<sup>137</sup> In summary, while this discussion on the stigmatization of PDs is not particularly in-depth, it does highlight the ways in which a trait-based model can facilitate a greater understanding of personality pathology in patients and laypersons alike.

### **Insecure Attachment and the Dimensional-Categorical Model**

As discussed previously, research has consistently demonstrated that insecure attachment is a highly prevalent issue throughout PD populations. Still, a categorical conceptualization of PDs limits the extent of what can be understood about the relationship between attachment and

personality pathology. This includes knowing which specific features of a given PD have a particularly strong relationship with insecure attachment.

Conceptualizing PDs as pathological traits may better capture personality impairments regardless of clinical severity and provide more information about why attachment dimensions and specific PDs relate. Rosa-Mendes, Pires, and Ferreira<sup>138</sup> recently contributed to such research in a cross-sectional study with a community sample. In their study, attachment was measured with the widely used Experience in Close Relationships (ECR) scale. The ECR measures two dimensions of attachment—*anxiety* and *avoidance*. Each attachment dimension had a significant positive correlation to all but one of the five trait-domains (*antagonism for attachment anxiety* and *negative affectivity for attachment avoidance*). Each dimension had a notably higher correlation coefficient with a specific trait-domain relative to the others. Specifically, this involved attachment anxiety and negative affectivity ( $r = .57$ ) as well as attachment avoidance and detachment ( $r = .64$ ). These distinct relationships have also been observed elsewhere (e.g., an unpublished dissertation<sup>139</sup>). Table 2.6 below summarizes the correlations between insecure attachment and pathological trait-domains.

Conceptually, the distinct relation between these respective dimensions and trait-domains is consistent with the fact that they share many characteristics. For example, some of the trait-facets that characterize negative affectivity include *anxiousness*, *suspiciousness*, *separation insecurity*, and *perseveration*. It is understandable how such characteristics can result from the desperate pursuit of others' acceptance (i.e., attachment anxiety). The same applies to the trait-facets of detachment (e.g., *withdrawal*, *intimacy avoidance*, *restricted affectivity*) and negative views of others based on the belief that they are emotionally unavailable (i.e., attachment avoidance). Clinically, these findings provide insight into why attachment anxiety relates to histrionic PD (via negative affectivity) and why attachment avoidance relates to avoidant PD (via detachment), for instance. In turn, clinicians may gain a more in-depth understanding of a client with personality dysfunction.

Table 2.6. *Correlations between insecure attachment and pathological personality trait-domains.*

Trait-domain	Attachment anxiety	Attachment avoidance
Negative affectivity	.57**	.10
Detachment	.24*	.64**
Antagonism	.16	.28**
Disinhibition	.39**	.35**
Psychoticism	.31**	.38**

Note. *These findings are those reported by Rosa-Mendes, Pires, & Ferreira.*<sup>138</sup>  
 \* $p < .05$ ; \*\*  $p < .01$ .

In another cross-sectional study with a community sample, Fossati and colleagues<sup>140</sup> investigated attachment and pathological traits with the Attachment Style Questionnaire (ASQ). Compared to the two dimensions measured by the ECR, the ASQ measures five attachment characteristics indicative of insecure attachment styles (e.g., need for approval, relationships as secondary to achievement). Overall, they found that insecure attachment characteristics largely predicted PID-5 trait-domain scores—with each characteristic significantly predicting three of the five trait-domains on average. Consistent with Rosa-Mendes and colleagues’<sup>138</sup> findings, the insecure attachment styles accounted for notably greater variance in negative affectivity and detachment.

While trait-based conceptualizations of PDs provide greater insight into personality functioning, there appears to be a void in attachment-personality research. To date, only three studies have used the dimensional-categorical model in attachment-personality research. As discussed above, Rosa-Mendes and colleagues<sup>138</sup> used the PID-5 alongside the ECR scale to investigate the attachment-personality relationship with a primary focus on gender differences. Fossati and colleagues<sup>140</sup> used the ASQ as a predictor of PID-5 scores. Lastly, Lewis<sup>139</sup> used the PID-5 alongside the ECR in an unpublished doctoral dissertation investigating the relationship between personality, attachment, emotion regulation, and mindfulness. Lewis, like Rosa-

Mendes and colleagues, noted that the [positive] correlations between attachment anxiety and negative affectivity and between attachment avoidance and detachment were stronger than those with other trait-domains.

### **Conclusions**

The DSM is often considered the *bible* of psychiatry.<sup>141</sup> While the DSM should be appreciated as a landmark in mental health, it should not be considered a historical document (i.e., sacred or resistant to change). It is critical that the DSM conceptualizes disorders in a way that reflects contemporary views supported by modern empirical science. Doing so can improve not only psychopathology research but also the effectiveness of treatments. Section III of the DSM-5 represents a paradigm shift for future DSM editions by introducing an empirically based alternative diagnostic model to the 33-year-old categorical model. The alternative model's greatest strength may be its empirical roots in the Big Five, and the ability to dimensionally measure the range of pathological personality traits among individuals with and without a disorder.

Considerable strides have been made in attachment-personality research in the last decade. This includes recent research suggesting that attachment not only changes within treatment contexts, but that such changes correspond to changes in personality. Yet, despite its proven utility, it appears that the new dimensional-categorical model of personality has been minimally utilized in attachment-personality research. The few studies utilizing the new model involve non-clinical samples (i.e., Italian, Portuguese, and American adults and college students) and cross-sectional designs. Therefore, any inferences regarding the generalizability of such findings to clinical populations are limited. In turn, the implications of attachment within the treatment for PDs remain largely unknown.

### **Summary**

If attachment represents a mechanism of change for personality pathology, clinicians may target insecure attachment as part of their treatment plans for PDs. Enhancing secure attachment would likely be advantageous to treatment outcomes, with one long-held view being that impairments to the self and to interpersonal functioning are at the core of PDs.<sup>142</sup> This may be more true today than ever before, given criterion A (i.e., self and interpersonal personality impairments) of DSM-5's alternative model of PDs.

This explicit focus on interpersonal dysfunction is one example of how attachment may offer insight into how and why personality changes in treatment—something that research is still trying to understand.<sup>79,92,143,144</sup> Research on PD psychotherapies has also been criticized as not being theoretically driven, resulting in the comparison of treatment models on the basis of previously demonstrated outcomes.<sup>92,144</sup> Thus, understanding the role of attachment in treating PDs can enhance our understanding of the interpersonal mechanisms underlying personality pathology and further benefit targeted interventions. These, and other potential implications, will be discussed in detail in Chapter 5 (Discussion).

If investigating the relationship between attachment and personality, it is critical to use the most well-founded measures to assess each construct. Yet, attachment-personality research has rarely used the dimensional-categorical model to assess personality pathology. By using an out-dated categorical model, we limit the depth of what can be learned from the relationship between attachment and personality. Of the few attachment-personality studies utilizing the hybrid model, none have done so with a clinical population. Given the trends in attachment-personality research discussed earlier, it seems necessary to first establish the relationship between insecure attachment and pathological trait-domains, as per the hybrid model, among individuals with clinical dysfunction.

### **Current Study**

The primary objective of the current study is to establish the relationship between insecure attachment and pathological personality trait-domains in a general psychiatric sample. This objective is reflected in the three hypotheses below:

**Hypothesis 1.** Insecure attachment (i.e., attachment anxiety and attachment avoidance, as measured by the ECR) will positively correlate with overall personality pathology (i.e., the average score on all trait-domains, as measured by the PID-5-Brief Form total score).

**Hypothesis 2.** Each attachment dimension will positively correlate with a majority of the pathological trait-domains, if not all five. Specifically, we expect that the distinct relation observed in non-clinical samples between attachment anxiety and negative affectivity and between attachment avoidance and detachment will also extend to a psychiatric sample.

**Hypothesis 3.** Expanding on hypotheses 1, we expect that an insecure attachment model will have predictive power for overall personality pathology scores at baseline. Within this model, we expect that single unit increases in each dimension score will be able to predict the

extent to which overall pathology scores increase (as indicated by unstandardized beta coefficients). This offers more specific insight than a correlational analysis by demonstrating the unique association between each dimension and overall pathology at a single point in time. Across trait-domains, and expanding on hypothesis 2, we expect that an insecure attachment model will account for greatest variance in negative affectivity and detachment (as indicated by the adjusted  $R^2$  coefficient).

## **Chapter 3: Methodology**

### **Participants**

Participants were recruited from the outpatient clinics of four adult psychiatrists in the Department of Psychiatry located in Royal University Hospital, Saskatoon, Saskatchewan, between April 2017 and March 2019. The current data was collected as part of a larger study that excluded participants diagnosed with acute alcohol or substance use disorder, bipolar disorder, factitious disorder, somatoform disorder, psychosis or neurological conditions and learning disabilities which interfered with their ability to complete the questionnaires. These exclusion criteria were chosen to maximize the opportunity of collecting thorough and accurate information from a more homogenous group with less biological variability. In addition to being between 18 to 65 years of age, the inclusion criteria required participants to be diagnosed with a mood disorder, anxiety disorder, adjustment disorder, obsessive compulsive or related disorder, and/or trauma-related disorder. This inclusion criteria generated a sample representative of a clinical population, in which multiple co-occurring issues exist. Moreover, given that our hypotheses focused on attachment and pathological personality traits (and not disorders per se), such criteria were acceptable.

The initial sample comprised of 269 participants. Initial data cleaning removed 49 (18.2%) participants due to a current manic episode or current alcohol or substance use disorder, factitious disorder, somatoform disorder, psychosis or neurological conditions and learning disabilities. An additional 70 (26%) participants were removed due to missing more than 10% of responses for a given measure. The final sample was comprised of 150 participants.

### **Procedure**

Patients with an initial assessment scheduled with one of the four collaborating psychiatrists were mailed a questionnaire package prior to their first appointment. A letter of information describing the study and asking for consent of participation was included with the questionnaires. Only data collected from consenting participants was used for the analysis. All participants were evaluated by a board-certified psychiatrist and diagnosed according to DSM-5 diagnostic criteria. Consenting participants had their information screened for inclusion and exclusion criteria following their initial assessment. All procedures were approved by the University of Saskatchewan Behavioural Research Ethics Board.

## Measures

### Demographics

Participants were asked to report their date of birth, gender, living arrangements, marital status, employment situation, and highest level of education completed. Current living arrangements, for example, included either living alone, with relatives (children or parents), with spouse/partner, and with others (roommates).

### Personality Inventory for DSM-5—Brief Form-Adult

The Personality Inventory for the DSM-5—Brief Form-Adult (PID-5-BF)<sup>145</sup> is a 25-item measure of the pathological personality trait-domains in Section III of the DSM-5. Each of the trait-domains—negative affectivity, detachment, antagonism, disinhibition, and psychoticism—are assessed via five items. Participants are asked to rate themselves relative to a personality descriptor on a 4-point scale (0 = Very false or often false, 3 = Very true or often true). Examples of the items include: “People would describe me as reckless,” “I fear being alone in life more than anything else,” and “It is easy for me to take advantage of others.” Total scores are calculated by adding participants’ responses within each trait-domain and for all 25 items. These raw scores are then used to calculate the average score for each domain and the overall measure. According to the PID-5-BF authors, the average scores are used instead of raw scores because they are more comparable to social norms.<sup>145</sup>

As the name implies, the PID-5-BF is based on the original 220-item PID-5. Multiple studies have validated the PID-5 in terms of overall psychometrics (e.g., Krueger et al.<sup>120</sup>), construct validity (e.g., Gore & Widiger;<sup>124</sup> Thomas et al.;<sup>146</sup> Suzuki et al.<sup>147</sup>), across cultures (e.g., Barchi-Ferreira et al.<sup>148</sup>), and within clinical and non-clinical samples (e.g., Bach, Sellbom, & Simonsen<sup>122</sup>).

Studies have reported the PID-5-BF to have Cronbach’s alpha values ranging from  $\alpha = .66$  to  $.81$  within general adult samples.<sup>149,150</sup> The test-retest reliability of the PID-5-BF appears to be rarely reported. Fossiti and colleagues, however, reported a test-retest reliability from  $r = .78$  to  $.97$  across the trait-domains over a two-month period among secondary (i.e., junior/high school) students in Italy.<sup>151</sup> The PID-5-BF has convergent validity with related personality/pathology measures, as well as discriminant validity with measures of overall health. For example, PID-5-BF total scores correlate positively with the Personality Assessment Screener total scores at  $r = .71$  and negatively with the Early Memory Index-Mental Health at  $r =$

-.44.<sup>152</sup> Overall, the validity of the PID-5-BF is considered acceptable.<sup>149,150</sup> Cronbach's alpha for the PID-5-BF in the current study is reported in Table 4.2 below (p. 52).

### **Experience in Close Relationships Scale**

The Experience in Close Relationships (ECR)<sup>153</sup> scale is a 36-item measure of dimensions of attachment anxiety and attachment avoidance. Participants use a 7-point scale (1 = Strongly disagree, 7 = Strongly agree) to indicate the extent to which they agree with statements of how they feel in relationships. Example items include "I prefer not to show a partner how I feel deep down," "I worry about being alone," and "When romantic partners disapprove of me, I feel really bad about myself." Half of the items correspond to attachment anxiety while the other half to attachment avoidance. The average score of the items within each attachment dimension reveal the extent to which a participant has attachment anxiety and attachment avoidance.

Brennan and colleagues<sup>153</sup> initially reported the ECR to have high Cronbach's alpha values of  $\alpha = .91$  for attachment anxiety and  $\alpha = .94$  for attachment avoidance. These initial findings have been consistently replicated in other studies. In reviewing the ECR, Mikulincer and Shaver<sup>154</sup> describe the measure as maintaining high reliability in hundreds of studies since its release in 1998, with good internal consistency within its anxious and avoidant dimensions. Mikulincer and Shaver<sup>154</sup> also provide various examples of the ECR's reliability and validity in a range of populations, including psychiatric patients with severe psychopathology. In all, ECR is arguably the most commonly used measure for attachment,<sup>155</sup> with some considering it a "gold standard" (e.g., Rholes & Paetzold,<sup>156</sup> p. 292). Cronbach's alpha for the ECR in the current study is reported in Table 4.2 below (p. 52).

### **Statistical Analyses**

All statistical analyses were performed using SPSS v26 and were two-tailed with an  $\alpha$  of .05. In the current study, analyses for data normality involved checking and satisfying the following criteria: a skewness coefficient within +/- .5, a kurtosis coefficient within +/- 1, a Shapiro-Wilk coefficient above .05, no significant outliers, and a variable mean within 10% of its respective median.<sup>157</sup> Non-parametric tests were used in instances that a variable was not normally distributed and/or otherwise violated the assumptions of the parametric test of interest. The internal consistency (Cronbach's alpha) was also calculated for the measures administered.

Cronbach's alpha is used to determine how reliable a test is and the extent to which it is accurately measuring the construct of interest.<sup>158</sup>

Hypothesis 1 used a correlational analysis to investigate the relationship between insecure attachment and pathological personality traits. This involved ECR attachment dimension scores (i.e., scores on attachment anxiety and attachment avoidance) and PID-5-BF total scores (i.e., the average score on all trait-domains). If both attachment dimensions had significant correlations with overall personality pathology, an additional analysis was conducted to determine whether the observed correlations are statistically different. In other words, this analysis determined whether the correlation between attachment anxiety and overall pathology was significantly different than that of attachment avoidance and overall pathology. This analysis provided a greater degree of statistical accuracy in interpreting whether or not one dimension had a stronger correlation to overall pathology than the other. Briefly, the analysis calculates a z-statistic using the z-scores of the correlations. Meng and colleagues<sup>159</sup> describe this analysis in detail, and also demonstrate its application in a psychological example. To compare correlation coefficients, the current study used the free online calculator by Lenhard and Lenhard<sup>160</sup> (specifically calculator #2).

Hypothesis 2 used a correlational analysis to investigate the relationship between insecure attachment and pathological trait-domains. This hypothesis specifically expected a distinct relationship between attachment anxiety and negative affectivity and between attachment avoidance and detachment. As part of this, we expected the correlation coefficients between attachment anxiety and negative affectivity and between attachment avoidance and detachment to be significantly different. Investigating this difference can further support that the relationship between each dimension and the respective trait-domain is distinct—particularly if either dimension also has a significant correlation with the other trait-domain (e.g., attachment avoidance and negative affectivity). The method for comparing correlation coefficients described in hypothesis 1 was used here.

Hypothesis 3 used a multiple regression analysis to investigate the predictive power of insecure attachment on overall personality pathology. Predictive power refers to the amount of variance in overall pathology scores that is accounted for by insecure attachment scores. This shared variance was interpreted through the adjusted  $R^2$  value for the insecure attachment model. The contribution of each attachment dimension within the model was interpreted through the

unstandardized beta coefficient (*b*). This coefficient indicates how many units (i.e., score points) overall pathology increases with every unit increase in attachment anxiety/attachment avoidance. Gender (coded as Female = 0, Male = 1) and age were entered in step 1 of the model as potential confounds. Attachment anxiety and attachment avoidance scores were entered in step 2. The PID-5-BF total scores and trait-domain subscales were the dependent variables in their respective analyses.

## Chapter 4: Results

### Sample Characteristics

A total of 150 participants took part in the study. The majority of the sample was female (74.7%), with an age range from 18 to 65 ( $M = 33.03$ ,  $SD = 12.70$ ). The majority of participants lived with relatives (48.7%) and were never married (47.3%). Most participants had full-time employment/self-employment (45.3%) and completed some university (46.7%). See Table 4.1 for the characteristics of the sample, and Table 4.2 for descriptive statistics of the sample across the PID-5-BF and ECR measures.

Table 4.1. *Characteristics of the sample.*

Demographic	Frequency	Percent (%)
Gender		
Male	38	25.3%
Female	112	74.7%
Living arrangements		
Live alone	26	17.3%
Live with relatives	73	48.7%
Live with a spouse/partner	56	37.3%
Live with other (e.g., roommate)	16	10.7%
Relationship status		
Married/Common-law	57	38.0%
Widowed	1	.7%
Divorced/Annulled	13	8.7%
Separated	7	4.7%
Never married	71	47.3%
Employment status		
Full-time employed/self-employed	68	45.3%
Part-time employed/self-employed	33	22.0%
Full-time student	18	12.0%
Part-time student	8	5.3%
On sick leave/disability	30	20.0%
Unemployed	18	12.0%

Table 4.1. *Continued.*

Demographic	Frequency	Percent (%)
Homemaker	8	5.3%
Retired	2	1.3%
Highest education		
Elementary school	4	2.7%
High school	45	30.0%
Technical school/Some university	70	46.7%
Completed university	31	20.7%

Table 4.2. *Sample descriptive statistics for the PID-5-BF and ECR.*

Scale	Mean (Standard deviation)	Median (Interquartile range)	Internal consistency ( $\alpha$ )
PID-5-BF total score	6.00 (2.58)		.87
PID-5-BF negative affectivity	1.76 (.70)		.75
PID-5-BF detachment	1.30 (.67)		.67
PID-5-BF antagonism		.40 (.60)	.66
PID-5-BF disinhibition		1.00 (1.10)	.80
PID-5-BF psychoticism		1.20 (1.20)	.78
ECR anxiety	4.04 (1.20)		.91
ECR avoidance	3.65 (1.10)		.92

Note. *PID-5-BF* = *Personality Inventory for the DSM-5—Brief Form*; *ECR* = *Experience in Close Relationships* scale.

## **Hypothesis 1**

*Insecure attachment (i.e., attachment anxiety and attachment avoidance) will positively correlate with overall personality pathology.*

Attachment anxiety had a statistically significant positive correlation with overall personality pathology ( $r = .54, p < .001$ ). Similarly, attachment avoidance had a statistically significant positive correlation with overall pathology ( $r = .34, p < .001$ ). These correlations are of large and medium-to-large effect sizes, respectively (Cohen, 1988, as cited in Morgan et al.<sup>54</sup>). Meanwhile, the insecure attachment dimensions were not statistically correlated with each other ( $r = .06, p = .414$ ).

Given the statistical significance of the correlations between both attachment dimensions and overall pathology, an additional analysis comparing the correlation coefficients was completed. The results show that the two correlation coefficients produce a z-score of 2.06 ( $p = .019$  one-tailed,  $N = 144$ ). This means that the correlations between the attachment dimensions and overall pathology are significantly different, with attachment anxiety having a stronger correlation.

## **Hypothesis 2**

*Each attachment dimension will positively correlate with a majority of the pathological trait-domains, if not all five. Specifically, we expect that the distinct relation observed in non-clinical samples between attachment anxiety and negative affectivity and between attachment avoidance and detachment will also extend to a psychiatric sample.*

Pearson's correlation test requires that variables are normally distributed and that the independent variable(s) and dependent variable have a linear relationship. Not all of the variables of interest satisfied these assumptions, resulting in the need to use Spearman's rho—the non-parametric alternative—when appropriate. Attachment anxiety had a statistically significant positive correlation with negative affectivity ( $r = .62, p < .001$ ), detachment ( $r = .22, p = .006$ ), antagonism ( $r = .44, p < .001$ ), disinhibition ( $r = .36, p < .001$ ), and psychoticism ( $r = .32, p < .001$ ). Meanwhile, attachment avoidance had a statistically significant positive correlation with detachment ( $r = .61, p < .001$ ), disinhibition ( $r = .21, p = .010$ ), and psychoticism ( $r = .23, p = .006$ ). Thus, attachment anxiety significantly positively correlated with all five of the trait-domains while attachment avoidance did with three. Attachment anxiety also had stronger correlations to two of the three trait-domains (disinhibition and psychoticism) that both

attachment dimensions correlated with. The results from the correlation tests are summarized in Table 4.3.

Table 4.3. *Correlations between insecure attachment and pathological personality trait-domains.*

Scale	1	2	3	4	5	6	7
1. ECR anxiety	-						
2. ECR avoidance	.06 <sup>a</sup>	-					
3. PID-5-BF NA	.62 <sup>a**</sup>	.13 <sup>a</sup>	-				
4. PID-5-BF detachment	.22 <sup>a**</sup>	.61 <sup>a**</sup>	.36 <sup>a**</sup>	-			
5. PID-5-BF antagonism	.44 <sup>b**</sup>	-.02 <sup>b</sup>	.33 <sup>b**</sup>	.15 <sup>b</sup>	-		
6. PID-5-BF disinhibition	.36 <sup>b**</sup>	.21 <sup>b*</sup>	.42 <sup>b**</sup>	.39 <sup>b**</sup>	.45 <sup>b**</sup>	-	
7. PID-5-BF psychoticism	.32 <sup>b**</sup>	.23 <sup>b**</sup>	.41 <sup>b**</sup>	.35 <sup>b**</sup>	.44 <sup>b**</sup>	.46 <sup>b**</sup>	-

Note.  $N = 137-146$ ; ECR = *Experience in Close Relationships scale*; PID-5-BF = *Personality Inventory for the DSM-5—Brief Form*; NA = *Negative Affectivity*;

<sup>a</sup> = *Pearson's correlation*; <sup>b</sup> = *Spearman's rho*.

\*  $p < .05$ ; \*\*  $p < .01$ .

A series of tests were conducted to compare the correlation coefficients between both attachment dimensions and negative affectivity and detachment, respectively. The results show that the two correlation coefficients produce a z-score of 4.98 for negative affectivity ( $p < .001$  one-tailed,  $N = 145$ ). This means that the correlations between the attachment dimensions and negative affectivity are significantly different, with attachment anxiety having a stronger correlation. The two correlation coefficients produce a z-score of -4.01 for detachment ( $p < .001$  one-tailed,  $N = 143$ ). In this case, the z-score is negative because attachment avoidance has the stronger correlation.

### Hypothesis 3

*We expect that an insecure attachment model will have predictive power for overall personality pathology scores. Within this model, we expect that single unit increases in each dimension score will be able to predict the extent to which overall pathology scores increase. Across trait-domains, we expect that an insecure attachment model will account for greatest variance in negative affectivity and detachment.*

The model involving step 1 (i.e., gender and age) was not statistically significant,  $F(2, 141) = 1.810, p = .168$ . The addition of the attachment dimensions in step 2 provided statistical improvement,  $F \text{ Change} = 50.882, p < .001$ , resulting in a significant insecure attachment model for overall personality pathology,  $F(4, 139) = 26.98, p < .001$ . The adjusted  $R^2$  value was .421, indicating that 42.1% of the variance in overall pathology was explained by the model—a larger than typical effect (Cohen, 1988, as cited in Morgan et al.<sup>54</sup>).

Both attachment dimensions were significant predictors (both  $p < .001$ ). Attachment anxiety, however, had a larger contribution in the model than attachment avoidance ( $b = 1.137$  for attachment anxiety,  $b = .723$  for attachment avoidance). This indicates that every unit increase in attachment anxiety was associated with a 1.137 unit increase in overall pathology. Likewise, for every unit increase in attachment avoidance, overall pathology increased by .723 units. Gender was also a significant predictor in the model ( $b = 1.245, p = .001$ ).

A series of additional multiple regression models were conducted. Overall, an insecure attachment model was a significant predictor for all trait-domains ( $p < .001$  for all). Insecure attachment explained the greatest variance in detachment (44.5%), followed by negative affectivity (38.8%), disinhibition (23.0%), antagonism (21.6%), and psychoticism (21.5%). While these adjusted  $R^2$  values are large or larger than typical for detachment and negative affectivity, those for disinhibition, antagonism, and psychoticism are within the medium/typical to large range (Cohen, 1988, as cited in Morgan et al.<sup>54</sup>).

Attachment anxiety was a significant predictor in each model for the five trait-domains. It had the greatest contribution in negative affectivity ( $b = .344, p < .001$ ) and least contribution in detachment ( $b = .126, p < .001$ ). Attachment avoidance was a significant predictor in three of the five models: detachment, disinhibition, and psychoticism. Of these trait-domains, it had the greatest contribution to detachment ( $b = .368, p < .001$ ) and least contribution to disinhibition ( $b = .145, p = .008$ )—however, its contribution to psychoticism was not much greater ( $b = .150, p = .005$ ). Gender and age were also significant predictors for certain trait-domains. Gender was a significant contributor to detachment, antagonism, and disinhibition. Of this set, the greatest contribution was to disinhibition ( $b = .511, p < .001$ ) and the least contribution was to detachment ( $b = .216, p = .030$ ). Meanwhile, age was a significant predictor for detachment ( $b = .009, p = .007$ ) and psychoticism ( $b = -.018, p < .001$ ).

As described previously, gender and age were entered in step 1 of each multiple regression model as controlled factors. In two instances—with disinhibition,  $F(2,141) = 4.230, p = .016$ , and psychoticism,  $F(2, 136) = 8.496, p < .001$ —step 1 of the model was significant. Still, the addition of the attachment dimensions in step 2 resulted in significant improvement in both cases: disinhibition,  $F \text{ Change} = 18.145$ ; psychoticism,  $F \text{ Change} = 11.091$ , both  $p < .001$ . Step 2 also explained more variance in disinhibition and psychoticism than step 1 did (disinhibition: 23.0% versus 4.3%, respectively; psychoticism: 21.5% versus 9.8%, respectively). Individually, only gender was a significant predictor of disinhibition in step 1 and step 2—with greater contribution in the latter ( $b = .378, p = .012$  versus  $b = .511, p < .001$ , respectively). Age was not significant in either step. Interestingly, the opposite was true for psychoticism, in which only age (and not gender) was a significant predictor in step 1 and step 2. However, its contribution to psychoticism is minimal in both steps ( $b = -.020$  in step 1,  $b = -.018$  in step 2, both at  $p < .001$ ). The results of the multiple regression analyses are summarized in Table 4.4.

Table 4.4. *Insecure attachment as a predictor of overall and domain-specific personality pathology.*

Variable	<i>b</i> ( <i>SE</i> )	95% <i>CI</i> for <i>b</i>	<i>t</i>	<i>p</i>
DV: PID-5-BF total score				
<b>Step 2</b>				<b>.000</b>
Constant	-1.338 (.919)	-3.155 to .479	-1.456	.148
Gender	1.245 (.378)	.499 to 1.992	3.298	.001
Age	-.008 (.013)	-.034 to .017	-.623	.534
ECR anxiety	1.137 (.133)	.873 to 1.400	8.532	.000
ECR avoidance	.723 (.149)	.429 to 1.017	4.859	.000

Note.  $N = 144$ ; [For Step 2:]  $R^2 = .437$ ,  $F(4, 139) = 26.986$ ,  $p < .001$ .

Variable	<i>b</i> ( <i>SE</i> )	95% <i>CI</i> for <i>b</i>	<i>t</i>	<i>p</i>
DV: Negative affectivity				
<b>Step 2</b>				<b>.000</b>
Constant	.145 (.258)	-.364 to .654	.563	.575
Gender	-.041 (.106)	-.251 to .168	-.389	.698
Age	3.308E-5 (.004)	-.007 to .007	.009	.993
ECR anxiety	.344 (.037)	.270 to .418	9.216	.000
ECR avoidance	.062 (.042)	-.020 to .145	1.493	.138

Note.  $N = 145$ ; [For Step 2:]  $R^2 = .405$ ,  $F(4, 140) = 23.778$ ,  $p < .001$ .

Variable	<i>b</i> ( <i>SE</i> )	95% <i>CI</i> for <i>b</i>	<i>t</i>	<i>p</i>
DV: Detachment				
<b>Step 2</b>				<b>.000</b>
Constant	-.930 (.238)	-1.400 to -.460	-3.912	.000
Gender	.216 (.098)	.021 to .410	2.194	.030
Age	.009 (.003)	.003 to .016	2.741	.007
ECR anxiety	.126 (.035)	.058 to .195	3.645	.000
ECR avoidance	.368 (.038)	.292 to .444	9.573	.000

Note.  $N = 143$ ; [For Step 2:]  $R^2 = .461$ ,  $F(4, 138) = 29.451$ ,  $p < .001$ .

Variable	<i>b (SE)</i>	<i>95% CI for b</i>	<i>t</i>	<i>p</i>
DV: Antagonism <b>Step 2</b>				<b>.000</b>
Constant	-.109 (.223)	-.551 to .332	-.490	.625
Gender	.274 (.092)	.091 to .456	2.966	.004
Age	-.004 (.003)	-.010 to .002	-1.215	.226
ECR anxiety	.193(.032)	.129 to .257	5.963	.000
ECR avoidance	-.006 (.036)	-.078 to .066	-.152	.878

Note.  $N = 141$ ; [For Step 2:]  $R^2 = .239$ ,  $F(4, 136) = 10.653$ ,  $p < .001$ .

Variable	<i>b (SE)</i>	<i>95% CI for b</i>	<i>t</i>	<i>p</i>
DV: Disinhibition <b>Step 2</b>				<b>.000</b>
Constant	-.396 (.332)	-1.052 to .259	-1.195	.234
Gender	.511 (.136)	.241 to .781	3.746	.000
Age	-.005 (.005)	-.014 to .005	-.974	.332
ECR anxiety	.251 (.048)	.156 to .346	5.210	.000
ECR avoidance	.145 (.054)	.039 to .251	2.695	.008

Note.  $N = 144$ ; [For Step 2:]  $R^2 = .252$ ,  $F(4, 139) = 11.702$ ,  $p < .001$ .

Variable	<i>b (SE)</i>	<i>95% CI for b</i>	<i>t</i>	<i>p</i>
DV: Psychoticism <b>Step 2</b>				<b>.000</b>
Constant	.461 (.321)	-.173 to 1.095	1.437	.153
Gender	.122 (.131)	-.138 to .381	.924	.357
Age	-.018 (.005)	-.027 to -.009	-3.937	.000
ECR anxiety	.166 (.047)	.074 to .259	3.549	.001
ECR avoidance	.150 (.052)	.046 to .253	2.869	.005

Note.  $N = 139$ ; [For Step 2:]  $R^2 = .237$ ,  $F(4, 134) = 10.424$ ,  $p < .001$ ; DV = Dependent variable; ECR = Experience in Close Relationships scale; *b* = Unstandardized beta coefficient; SE = Standard error; CI = Confidence interval.

## Chapter 5: Discussion

The current study investigated the relationship between insecure attachment and pathological personality in a sample of adult individuals referred to a psychiatrist in a tertiary care center. This objective sought to build upon the knowledge gained from previous studies by utilizing the dimensional-categorical model of PDs. This model enabled the assessment of personality pathology with a trait-based conceptualization. The results align with the few studies that have investigated attachment and personality with the PID-5, while adding novel support from a clinical perspective. Briefly, we demonstrated that attachment is not only correlated with but also predicts overall and domain-specific personality pathology among individuals with psychiatric conditions. Moreover, the results support the notion of distinct relations between the attachment dimensions and specific trait-domains.

### Hypothesis 1

The first hypothesis stated that insecure attachment would positively correlate with overall personality pathology. The results supported this hypothesis, while also showing that attachment anxiety had a greater correlation to overall pathology than attachment avoidance. While this does not necessarily indicate that attachment anxiety has a more negative impact on personality functioning than attachment avoidance, it is possible that its impairments are broader. Such speculation is consistent with literature regarding correlations between the attachment dimensions and the Big Five—in which attachment anxiety and neuroticism stand out as having the strongest correlational relationship (see Table 1.4, p. 14).<sup>52</sup> Similarly, the results of the second hypothesis show a distinct relationship between attachment anxiety and negative affectivity (at  $r = .62$ ). Negative affectivity is conceptualized as the extreme variant of neuroticism,<sup>147</sup> with one study reporting a correlation as high as  $r = .77$  between the two (See Table 2.5, p. 37).<sup>125</sup> Neuroticism is the personality trait-domain considered to have the most far-reaching implications on health, from a general vulnerability to mental disorders to a clear risk for chronic illness.<sup>57-59</sup> Given this, it makes sense that individuals whose attachment style is characterized by high attachment anxiety are particularly vulnerable to the development of more than one PD.<sup>64</sup>

From an attachment perspective, this vulnerability to personality pathology can be explained as a consequence of the hyperactivating strategies associated with attachment anxiety. These strategies stimulate desperate attempts to gain others' affection but often result in greater

relational conflict.<sup>14–16</sup> In turn, relational conflict is likely to decrease social support and further promote immature coping styles and impaired interpersonal functioning. Kafetsios and Nezlek<sup>161</sup> demonstrated this in a study that asked participants to reflect on their social interactions in the previous seven day period. While individuals with attachment avoidance perceived their interactions as more neutral (i.e., of little reward or punishment), counterparts with attachment anxiety perceived their interactions as more negative (i.e., involving rejection, anxiety). Still, individuals with attachment avoidance reported greater deficits regarding their happiness, comfort disclosing to others, and the extent they believed others were responsive and understanding. Thus, while both attachment dimensions correspond to social impairments, those with attachment anxiety tend to experience more active or day-to-day distress. In the context of this study, this heightened distress seems to be related to heightened neuroticism—or, in more clinical cases, negative affectivity.

Some of the findings in hypotheses 2 and 3 also help in understanding the findings from hypothesis 1. Specifically, that attachment anxiety significantly correlated with and predicted all five trait-domains while attachment avoidance did with three. These findings are consistent with the speculation above regarding the dynamic of attachment anxiety, neuroticism, and far-reaching implications. However, these findings also give way to certain questions regarding the measurement of attachment anxiety and neuroticism. Attachment anxiety and neuroticism represent specific factors of relationship functioning and individual personality, yet positively correlate to a broad range of negative mental and physical health outcomes. To a certain point, it seems necessary consider the specificity of these constructs—how do we know attachment anxiety and neuroticism are not in fact non-specific measures of general dissatisfaction or *everything that is bad*? One possible answer will be briefly discussed here.

Attachment anxiety and neuroticism, though specific to relationship and personality functioning, are also very broad domains. While the term *domain* may not be commonly used (if at all) when discussing attachment anxiety, it does seem appropriate—especially if considering its similarities/relationship to neuroticism (a trait *domain*). Specifically, both constructs have demonstrated to encompass a wide set of marker variables. Allen<sup>162</sup> describes marker variables as individual aspects of a construct that may be more readily observable than the construct itself. Allen also provides a helpful analogy, in which marker variables are to higher-order constructs what symptoms (e.g., body aches, fatigue) are to illness (e.g., flu). As examples, Griffin and

Bartholomew<sup>163</sup> discussed self-esteem and sociability as marker variables that combine to form the self and other models of attachment patterns. Michikyan and colleagues<sup>164</sup> referred to anxiousness/moodiness as marker variables for neuroticism. Marker variables are, in essence, the key characteristics that combine at various intensities to represent a construct.

Despite their breadth of marker variables, attachment anxiety and neuroticism have been demonstrated to be distinct constructs. As discussed in Chapter 1, research has demonstrated that attachment and personality are not redundant constructs. Perhaps most telling was the finding that the Big Five accounted for less than half of the variance in attachment dimensions.<sup>52</sup> This distinction manifests within relationship-specific outcomes, to which attachment measures outperform the Big Five in predicting relationship status, satisfaction, commitment, and, to a lesser extent, length.<sup>51</sup> Thus, though both constructs are associated with a broad range of negative outcomes, these findings show that attachment anxiety and neuroticism do have some specificity. In some ways, this indicates that specific attachment characteristics and emotional stability are highly relevant to our wholistic health—even though these constructs represent functioning within the realm of relationships and personality.

Being a broad trait-domain, it could also be helpful to consider how neuroticism differs from other similar constructs not specific to relationships. For example, how does neuroticism differ from emotion dysregulation? Emotion dysregulation is generally conceptualized as involving limited emotional awareness and an impaired ability to cope/react to intense emotions, engage in cognitive reappraisal, and maintain goal-directed behaviour.<sup>165,166</sup> Like neuroticism, emotion dysregulation has been linked to a range of disorders and related negative outcomes. In fact, Hoffman and colleagues<sup>167</sup> proposed an emotion dysregulation model for mood and anxiety disorders. Elsewhere, emotion dysregulation has been linked to borderline personality disorder,<sup>168</sup> attention deficit hyperactivity disorder,<sup>169</sup> autism spectrum disorder,<sup>170</sup> anorexia nervosa,<sup>171</sup> and self-injury,<sup>172</sup> to list a few.

At face value, it is understandable how neuroticism and emotion dysregulation may appear to be measures of general [non-specific] poor outcomes via the experience of intense negative emotion. Yet, when predicting psychopathology, emotion dysregulation significantly added to the incremental validity of models comprised of childhood trauma and neuroticism. This suggests that emotion dysregulation is much more than frequent/intense experiences of negative emotion (i.e., neuroticism).<sup>173</sup> Given the definition listed above, it seems that its

primary focus on identifying and controlling intense negative emotions makes it clinically distinct from neuroticism.

In summary, the notion that attachment anxiety and neuroticism could be measures of *everything bad* only applies if one focuses at the mere surface of the constructs. It is important to carefully consider how these constructs (and all others) are consistently operationally defined. Similarly, it can be helpful to understand the marker variables that comprise two constructs of interest and consider the extent to which they overlap. In doing so, researchers and clinicians alike may form a better understanding of how constructs relate, conceptually and theoretically. For example, understanding the key differences, though sometimes slight, between attachment anxiety, neuroticism, and emotion dysregulation enables a greater depth of speculation about how these constructs relate. There is much evidence indicating that attachment precedes personality development (as discussed in Chapter 1). It seems particularly plausible that attachment anxiety in early life could give way to higher degrees of neuroticism and, in more clinical instances, negative affectivity. To this end, one longitudinal study found that neuroticism in earlier life corresponds to emotion regulation difficulties in adulthood.<sup>174</sup> This makes sense, as children raised with attachment anxiety would typically lack secure figures that could model the skills and strategies to regulate intense negative emotions. Thus, while all three constructs contribute to negative outcomes in adulthood, they do so in different ways—and sometimes in relation to one another.

Beyond its relationship with neuroticism, the far-reaching implications of attachment anxiety (compared to attachment avoidance) could also be related to the self-report nature of the measurements used in the current study. Self-report measures ask participants to consider a set of questions and consider the extent to which each question reflects some aspect of their functioning.<sup>175</sup> Despite an early history characterized by skepticism and doubt, self-report measures are now the most common means of assessing personality and psychopathology.<sup>175</sup> However, Samuel and colleagues<sup>176</sup> highlighted evidence suggesting that self-report assessments of personality seem more common among researchers than therapists—with therapists preferring to diagnose patients on the basis of unstructured interviews and clinical judgements (i.e., *clinician diagnoses*). This inspired their study investigating the incremental validity of self-report, semi-structured, and clinician diagnoses of PDs. While clinician diagnoses were still valid for predicting patients' functioning, self-report and semi-structured methods were superior.

In the current study, then, the observed impairments of attachment anxiety could be in part related to the self-report measures used. It is possible the extent of the impairments would be less prominent if the data were based on clinicians' judgements. Given this, it seems that clinicians would benefit from incorporating self-report measures as part of their assessment process (if not already doing so).

### **Hypothesis 2**

The second hypothesis stated that each attachment dimension would positively correlate with a majority of the pathological trait-domains, if not all five. We specifically expected to reproduce the distinct relationships between attachment anxiety and negative affectivity and between attachment avoidance and detachment that have been observed in previous research. The results supported this hypothesis. As discussed previously, the distinct relation between the respective dimensions and trait-domains is consistent with the fact that they share many underlying characteristics (or marker variables).

From an attachment theory perspective, it is possible that attachment anxiety and attachment avoidance are relevant risk factors for elevations in negative affectivity and detachment, respectively. If so, it is likely the dimensions would also be risk factors for PDs marked by high negative affectivity (e.g., dependent PD and histrionic PD) and detachment (e.g., avoidant PD and schizoid PD). Individuals with high degrees of both attachment dimensions (i.e., fearful-avoidant), then, could be at risk for PDs defined by both negative affectivity and detachment (e.g., borderline PD). Either way, this speculation closely aligns with Bowlby's<sup>1</sup> initial view of insecure attachment as a foundation for a personality structure vulnerable to general distress. In this case, attachment insecurity in early life might create a developmental vulnerability in which maladaptive coping and relating emerges as pathological personality patterns.

The correlation between attachment anxiety and antagonism is also worth noting. The positive correlation between attachment anxiety and antagonism bordered on a larger than typical effect size ( $r = .44$ ; Cohen, 1988, as cited in Morgan et al.<sup>54</sup>). Conversely, attachment avoidance did not significantly correlate to antagonism. This contradicts previous findings. Rosa and colleagues,<sup>138</sup> for instance, reported the opposite pattern in which attachment avoidance correlated to antagonism at  $r = .28$  in a community sample (while attachment anxiety did not). Conceptually, the trait-facets that comprise antagonism (e.g., manipulateness, attention

seeking, deceitfulness) are more consistent with the characteristics of attachment anxiety. It is possible that the relationship between attachment anxiety and antagonism reported here is one example of how attachment and personality may present differently in clinical contexts. In this case, the features of attachment anxiety may be contributing to or be intensified by the trait-facets of antagonism.

### **Hypothesis 3**

The third hypothesis stated that insecure attachment will have predictive power for overall personality pathology, with each attachment dimension being a significant predictor. We also expected that insecure attachment would account for greatest variance in negative affectivity and detachment. The results supported this hypothesis. In turn, we must now consider the various conceptual implications of an insecure attachment model for overall pathology—particularly given that both attachment dimensions were significant predictors.

For example, these findings suggest it is likely that individuals with fearful-avoidant attachment have greater overall pathology. This aligns with Mikulincer and Shaver's<sup>13</sup> observations of fearful-avoidant attachment being particularly destructive and troublesome. They describe fearful-avoidant attachment as the outcome of failing to achieve any major attachment strategies. That is, the failure to achieve a sense of security from the self and from intense proximity-seeking behaviours. Elsewhere, Mikulincer and Shaver<sup>60</sup> reviewed literature demonstrating the particularly pathological effects of a fearful-avoidant attachment style—including within the realm of PDs. Given the such complexities, the finding that fearful-avoidant attachment may correspond to greater overall personality pathology is highly relevant for clinicians and therapists alike. For example, in the book “Interpersonal process in therapy,” Teyber and Teyber<sup>177</sup> state that:

...therapists are going to see a wide range of symptoms and contradictory or back-and forth/approach-avoid behavior... fearful clients are challenging in treatment because they often evoke strong countertransference reactions in therapists, and because therapists may need to manage acting-out behavior to keep these clients safe... these clients need therapists who can manage and tolerate the shifting and contradictory presentations they exhibit (p. 197-199).

This statement would be particularly helpful for new clinicians and therapists to consider. Especially because fearful-avoidant attachment can present with and without a diagnosable PD.

Of the two dimensions, however, attachment anxiety had a larger contribution to overall pathology than attachment avoidance. This is consistent with our earlier speculation that attachment anxiety may have broader implications on personality. Still, male gender was a stronger predictor of overall pathology than either dimension. Male gender also played a notable role in trait-domains too, being a significant predictor of detachment, disinhibition, and antagonism. In a previous study with a non-clinical sample, males demonstrated significantly greater pathology than females on more than one-third of the 25 trait-facets, with females exceeding males only in emotional lability. Moreover, the same study found that males had significantly higher scores in two trait-domains.<sup>138</sup> Compared to females, then, it seems that males experiencing psychiatric conditions are particularly prone to personality pathology, with this risk perhaps facilitated or exacerbated by insecure attachment.

One possible reason for this may involve Western gender stereotypes, in which males are expected to be emotionally stoic and stable. For example, the APA recently identified the common phrase *boys don't cry* as an example of harmful stereotypes for young boys.<sup>178</sup> This notion of harmful Western male stereotypes is consistent with research at large as well. For example, research shows that greater adherence to traditional male norms negatively correlates to relationship satisfaction among men.<sup>179</sup> Another study, via interviews, concluded that men actively struggle to balance the pressure and desire to be both masculine and emotionally open. Thus, being masculine is to internalize unmet needs, with the failure to do so putting one at the risk of being judged as emotionally unfit or *not manly*.<sup>180</sup> In the current study, then, it is possible that males' desire for unmet attachment needs may have been further enhanced by co-occurring mood and/or anxiety disorders. In such cases, males would have an interpersonal sensitivity to the possibility that others perceive them as a failure—or to actualized instances of being stigmatized. In other words, the conflict between a desire to express unmet needs and the perceptions that such needs are detrimental to their manhood might further fuel ego dystonic states.

To some surprise, there is debate as to whether males and females significantly differ in terms of their general attachment tendencies. One meta-analysis, for example, concluded that males tend to have greater attachment avoidance and lower attachment anxiety compared to

females.<sup>181</sup> However, this meta-analysis focused primarily on college and community samples and noted that gender differences may only be detected in large samples that are demographically representative. This is partly evidenced in Rosa-Mendes and colleagues' <sup>138</sup> study with a community sample—in which higher attachment avoidance scores were observed among males but the difference was statistically insignificant compared to females' scores. Elsewhere, while agreeing that males tend to have greater attachment avoidance, Scharfe<sup>182</sup> still considers such findings to be somewhat inconsistent and even controversial. Given these findings—and that gender differences were not explored in the current study—it must be emphasized that the interpretation involving male gender and attachment anxiety is confined to theoretical speculation. Still, it does seem plausible that many gender stereotypes in Western society can add a layer of complexity for males experiencing attachment anxiety. Thus, gender differences in attachment appear to be one important avenue of future research.

Lastly, the results also demonstrated that insecure attachment predicted all five trait-domains—explaining greatest variance in detachment and negative affectivity (44.5% and 38.8%, respectively, with next closest value being 23.0% for disinhibition). However, of the two attachment dimensions, attachment anxiety was a significant predictor of all five trait-domains while attachment avoidance was of three (detachment, disinhibition, and psychoticism). These results fit the themes discussed above, in which attachment anxiety/avoidance and negative affectivity/detachment have distinct relationships relative to the other trait-domains. Likewise, these results add to the notion that perceiving others' availability as inconsistent (i.e., attachment anxiety) has more far-reaching implications on personality functioning.

### **Clinical Implications**

With respect to clinical implications, the results for the three hypotheses suggest a possible benefit for incorporating attachment assessment in treatment strategies—a notion gaining momentum in psychotherapy research.<sup>67</sup> In the case of PDs, this benefit can be further enhanced with the use of a dimensional-categorical model. For example, in general clinical contexts, assessing attachment could reveal if a client has a high degree of attachment anxiety (or avoidance). From this, a clinician can evaluate the client in terms of their negative affectivity (or detachment).

While simply assessing pathological traits could be sufficient in some instances, there are still various benefits to also assessing attachment. For example, compared to attachment

avoidance, clients with a high degree of attachment anxiety tend to be more resistant or challenging throughout the treatment process.<sup>67</sup> Research also shows, however, that clients with attachment anxiety tend to perceive therapy as more helpful when the clinician implements avoidant-type strategies (see Slade & Holmes<sup>67</sup> for review). Thus, in addition to having a better understanding of how a given client relates to others, assessing attachment can identify clients that may be somewhat more resistant to treatment. In turn, the clinician can implement specific attachment strategies throughout the treatment process that can contribute to positive outcomes.

Indeed, the findings may be helpful from a treatment planning perspective. If treating a patient with borderline PD, which is marked by elevated negative affectivity, it could be useful to implement strategies aimed to reduce attachment anxiety. The same applies to avoidant PD and attachment avoidance. While further support is needed, there is some evidence suggesting not only that attachment can be enhanced during treatment but that such enhancements are predictive of changes in personality.<sup>73,75,82,93</sup> Levy and colleagues,<sup>93</sup> for instance, even argued that changing attachment in patients with PDs should be one of clinicians' goals in treatment. In such case, a dimensional-categorical assessment of personality would provide clinicians with means of tracking specific changes in pathological traits over the course of treatment. This can mean, for instance, tracking the extent to which clinically relevant elevations in negative affectivity and/or detachment change in response to a treatment plan.

While the speculation regarding the application of our findings to treat PDs could be considered ambitious, it is consistent with projections made previously by some researchers. In anticipation of the alternative model of PDs, Dixon-Gordon and colleagues<sup>183</sup> predicted that effective treatment may involve the application of specific mechanisms of change to specific aspects of personality pathology. Doing so, they argued, would reflect a more flexible treatment approach for PDs rather than an overreliance on a *how-to* manual.

It should be emphasized, though, that these clinical implications are still rooted in theory and do require further investigation (e.g., replication, refined methodology, comparison groups, longitudinal designs). In other words, the current findings represent only a small piece in the puzzle that can reveal how to best treat PDs and—maybe most importantly—why some treatment approaches work better than others. There is still room for improvement in this regard within research focused on psychotherapies for PDs. For one, many have criticized the research area as not being theoretically driven.<sup>92,144</sup> This means that, in many cases, the justification for

comparing two psychotherapies is based primarily on their track record (i.e., their previously demonstrated outcomes). One possible consequence of this approach is that changes in personality observed in a given psychotherapy are not well understood.<sup>79,92,143,144</sup>

There is still reason to be optimistic, however. In their meta-analysis of PD psychotherapies, Hadjipavlou and Ogrodniczuk<sup>184</sup> identified that the more effective approaches have common strategies that focus on psychoeducation, motivation, cognition, interpersonal functioning, affect, and behaviour. Moreover, the extent to which these strategies are applied seems to be partly patient-dependent. In their concluding remarks, Hadjipavlou and Ogrodniczuk<sup>184</sup> state:

PDs are complex conditions that manifest in myriad ways. It is hard to imagine that a single therapeutic modality would work well for all patients, even if they carry the same diagnosis... instead of pitting different therapies against each other, it may be more productive to consider how different approaches may work better for different patients, or how they can complement each other... (p. 207).

Overall, research on psychotherapies for PDs has gained momentum toward understanding the *hows* and *whys* of treatment. The current study hopes to contribute to this momentum by demonstrating that individual attachment needs are highly related to specific forms of personality pathology. As such, considering a patient's attachment needs could contribute to understanding how and why a proposed treatment plan will facilitate desired outcomes.

### **Strengths and Limitations**

There are a few notable strengths in the current study. First, to our knowledge, this is the first study to investigate attachment and personality via the dimensional-categorical model of PDs in a psychiatric sample. In this sense, the sample provides insight into how attachment and pathological trait-domains relate to one another in a clinical context. The inclusion/exclusion criteria further ensured the sample was representative of a psychiatric population by allowing multiple comorbidities but limiting biological variability. The value of the current sample to this study is significant. The Canadian Institute of Health Research,<sup>185</sup> for instance, states that research with clinical populations contributes directly to improving the diagnostic and treatment processes for disorders while providing insight into optimizing quality of life.

One reason research with non-clinical populations cannot be fully generalized to clinical populations is due to the many complexities and comorbidities that characterize the latter. For example, individuals with serious mental health issues are more likely to have been jailed or homeless than counterparts without such issues.<sup>186</sup> The same study also reported the former group to have worse physical health (e.g., hypertension and heart and lung problems) despite being equally likely to have health insurance. Research has also shown that gambling, problematic substance abuse, smoking, and an overall unhealthy lifestyle are highly prevalent among psychiatric outpatients.<sup>187,188</sup> Moreover, from a more clinical perspective, psychiatric outpatients have especially high rates childhood abuse and comorbidities related to dissociative disorder and PDs.<sup>189-191</sup> Generally, then, more severe mental health issues are accompanied by more complex individual factors. At the group level, these added complexities may manifest in relationships that are not observed in non-clinical populations. In the current study, this might be the case with the relationship between attachment anxiety and antagonism.

Another strength of the current study involves the measures used to assess attachment and personality pathology. As discussed previously, the ECR is arguably the gold standard for measuring adult attachment that has been used in hundreds of studies, including in populations with severe psychopathology. Compared to other attachment measures (e.g., the Adult Attachment Scale<sup>192</sup>), the ECR is also somewhat unique in the sense that it assesses attachment globally rather than only in the context of current romantic/close relationships. This is reflected in the measure's instructions, which asks participants to reflect on their feelings in relationships from romantic partners, close friends, or even family friends. Meanwhile, the PID-5-BF represents an abbreviated version of the dimensional-categorical model that is an appealing alternative to the full-length version (i.e., 25 items versus 220 items). This can be particularly useful in clinical populations, where patients may be asked to complete a large set of intake questionnaires and/or interviews.

Yet, the use of the PID-5-BF could also be considered a limitation. In its abbreviated form, the PID-5-BF only provides scores for the trait-domains and not the trait-facets. While this is still clinically informative and advantageous for data collection purposes, it comes at the expense of acquiring more in-depth data. This trade-off could be seen as particularly limiting given both the novelty of the current study and the fact that the comprehensive nature of the dimensional-categorical model is one of its major clinical benefits.

Another limitation in the current study involves the sample size. While 150 participants is not necessarily inadequate—especially as psychiatric outpatients—a prospective power analysis would have added clarity as to the sample size required to most accurately identify any significant relationships (i.e., with narrower confidence intervals). Relatedly, our female dominant sample should also be noted as a limitation. Although it is relatively common to have a greater female to male participant ratio, an ideal sample would involve a more balanced split than observed here—especially given the role of male gender in some of our findings.

Lastly, causal relationships cannot be inferred given the cross-sectional nature of the data. Thus, any discussion regarding the developmental pathway between attachment and pathological personality is rooted in theory. That said, the current findings suggest that longitudinal investigations of attachment and pathological personality traits would be highly beneficial for clinicians and, more importantly, the patients needing treatment.

### **Future Research**

The current study represents a novel investigation among psychiatric outpatients regarding attachment and pathological personality, as per the alternative model of PDs. As a novel study, future research should attempt to replicate our findings using similar methodology. Replicating studies ensures the generalizability of findings. This seems more important today than ever, with an alarming number of studies failing to be replicated (i.e., *replication crisis*). To this end, many recommend that replication studies obtain larger samples to ensure adequate power (which should therefore be calculated proactively).<sup>193,194</sup> It would be particularly useful to conduct a version of the current study with a sample of patients referred to psychiatric care upon being diagnosed specifically with a PD. This would provide insight into the relationship between attachment and the trait-domains across a range of PDs. It is likely that the elevations across the trait-domains would be higher than that observed in the current study, in turn suggesting greater impairments within attachment.

It might be more ideal, though, for future studies to investigate treatment-related changes in attachment and pathological personality traits within a sample receiving psychotherapy. To this end, it would be useful to have comparison groups to allow for a direct comparison of treatments involving attachment-building strategies and those that do not. This could mean comparing two treatment-as-usual groups in which only one has the added focus of attachment.

The exact methodology for comparing treatment approaches, however, is well beyond the current author's expertise. For one, though common, the notion of using 'treatment-as-usual' as a point of comparison for specialized treatments seems increasingly contentious. Generally, treatment-as-usual represents the care an individual would receive if specialized care is not available.<sup>195</sup> Research has demonstrated that treatment-as-usual can be helpful, such as with borderline PD for instance.<sup>195</sup> While there are some consistencies, treatment-as-usual is considered highly variable. Despite this variability, researchers rarely provide any detail regarding what their treatment-as-usual condition generally involved.<sup>196</sup> To some extent, then, it becomes questionable if researchers who employ treatment-as-usual groups even understand what such treatment involves. Given this, Löfholm and colleagues<sup>196</sup> described treatment-as-usual as an "imprecise mixture of interventions representing a wide array of treatment methods" (p. 31). Burns<sup>197</sup> echoed this notion, even advocating for the outright removal of 'treatment-as-usual' from scientific vocabulary. Researchers in personality should be particularly cautious about using treatment-as-usual conditions in comparing treatments, given the momentum of individualized approaches discussed previously.

Lastly, if attachment is a possible mechanism of change for pathological personality, research refining attachment-building strategies is warranted. Doing so could also add clarity as to the degree to which attachment strategies must be implemented to reliably observe change. For example, should there be a new brand of *attachment therapy*, focused exclusively on insecure attachment? Does increasing attachment security require a mixture of individual and group therapy, as done in MBT (see Daubney & Bateman<sup>198</sup>)? Or can the clinician themselves model attachment security and challenge current insecure attachment systems (see Slade & Holmes<sup>67</sup>)?

Given that attachment seems to be highly malleable within a wide range of treatment contexts,<sup>73</sup> improving attachment security likely does not need to shape the entire intervention but only compliment it. The therapeutic alliance (i.e., clinician-patient relationship), in particular, appears to be the most appropriate means for facilitating attachment-related growth. Slade and Holmes<sup>67</sup> provide a thorough description of attachment dynamics within the therapeutic alliance and how its relational process can lead to change. This notion is not only consistent with the increasingly individualized approaches to treatment, but also research demonstrating a robust association between therapeutic alliance and treatment outcomes

(regardless of the type of therapy).<sup>199,200</sup> Arnow and Steidtmann<sup>200</sup> even note that “the potential of the [therapeutic] alliance has not yet been fully harnessed,” with clinicians’ training just starting to focus on ways to ensure high-quality alliances (p. 239). Thus, the most fruitful investigation of attachment-building strategies should involve the therapeutic alliance.

## **Conclusion**

Bowlby’s attachment theory has continued to gain momentum since first introduced in the 1980s, with particular relevance within personality research. The current study adds to this momentum by demonstrating the association between insecure attachment and the most modern conceptualization of personality pathology. Despite being relatively broad constructs, there appears to be distinct relationships between attachment anxiety and negative affectivity and between attachment avoidance and detachment. Such relationships may be the focus of future research aimed at improving therapeutic practices and outcomes.

On a more personal note, it was surprising to discover the controversy throughout the history of the DSM. As a student, it was disappointing to learn about the seemingly unscientific approach taken in drafting the [categorical] personality sections. It is also concerning that bureaucratic processes likely impacted the ability for the DSM to accurately reflect the field’s understanding of PDs. Despite its concerning history, the DSM will likely remain an important part of clinical practice. But, at a certain point, could researchers and clinicians eventually grow cynical of the APA’s ability to manage future editions of the DSM? After all, the process of drafting the alternative model was chaotic, rushed, and contentious—not to mention overseen by a confusing number of committees.<sup>105</sup>

There are signs that researchers and clinicians are indeed distancing themselves from the DSM, some more than others. For example, Hadjipavlou and Ogrodniczuk<sup>184</sup> argued that the DSM’s longstanding definition of PDs as *enduring* and *stable* conditions is not only pessimistic to treatment efforts but empirically void. Timimi<sup>201</sup> outright advocated for psychiatric diagnostic systems to be abolished, citing that “the real gift of psychiatry to medicine is an understanding of the person in their context leading to an integrated whole-person model of healthcare” (p. 213). Kinderman<sup>202</sup> echoed this notion, arguing for a shift from the current ‘disease model’ to a ‘psychosocial model.’ According to this perspective, the latter would involve identifying individuals’ specific problems that would enable individualized treatment plans—rather than trying to fit problems into “neat boxes” (p. 189).

Ultimately, the most appropriate approach may involve balancing different perspectives. This means using the DSM as a formal guide but using additional strategies described in research to further assist treatment planning. As a student in an exclusively research-based program, it will be critical to listen to clinicians' input and attitudes toward the DSM—the current edition and its successors. Relatedly, as an aspiring researcher, it will be interesting to see how the APA responds to the controversy behind the DSM-5 in their development of the next edition. In the meantime, there are many research areas that would benefit from using the dimensional-categorical model of PDs—with attachment being a possible frontrunner.

## References

1. Bowlby J. Attachment and loss: Attachment (Vol. 1). 2nd ed. New York: Basic Books; 1982. 1–464 p.
2. Fraley RC, Shaver PR. Attachment theory and its place in contemporary personality theory and research. In: John O, Robins RW, editors. Handbook of personality: Theory and research (3rd ed.). New York: Guilford Press; 2008. p518–541.
3. Ainsworth MDS, Blehar MC, Waters E, et al. Patterns of attachment: A psychological study of the strange situation. Hillsdale, N.J.: Lawrence Erlbaum Associates; 1978. 1–314 p.
4. Ainsworth MDS. Infancy in Uganda: infant care and the growth of love. Johns Hopkins Press; 1967.
5. Hazan C, Shaver PR. Romantic love conceptualized as an attachment process. *J Pers Soc Psychol* 1987;52(3):511–524.
6. Bartholomew K. Avoidance of intimacy: An attachment perspective. *J Soc Pers Relat* 1990;7(2):147–178.
7. Brennan KA, Shaver PR, Tobey AE. Attachment styles, gender, and parental problem drinking. *J Soc Pers Relat* 1991;8(1):451–466.
8. Collins NL, Read SJ. Adult attachment, working models, and relationship quality in dating couples. *J Pers Soc Psychol* 1990;58(4):644–663.
9. Fraley CR, Hudson NW, Heffernan ME, et al. Are adult attachment styles categorical or dimensional? A taxometric analysis of general and relationship-specific attachment orientations. *J Pers Soc Psychol* 2015;109(2):354–368.
10. Ein-Dor T, Doron G, Solomon Z, et al. Together in pain: Attachment-related dyadic processes and posttraumatic stress disorder. *J Couns Psychol* 2010;57(3):317–327.
11. Bartholomew K, Horowitz LM. Attachment styles among young adults: A test of a four-category model. *J Pers Soc Psychol* 1991;61(2):226–244.
12. Van Buren A, Cooley EL. Attachment styles, view of self and negative affect. *N Am J Psychol* 2002;4(3):417–430.
13. Mikulincer M, Shaver PR. A model of attachment-system functioning and dynamics in adulthood. In: Attachment in adulthood: Structure, dynamics, and change (2nd ed.). New York, NY: Guilford Press; 2016. p27–46.

14. Mikulincer M, Shaver PR. The attachment behavioral system: Basic concepts and principles. In: *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). New York, NY: Guilford Press; 2016. p2–26.
15. Mikulincer M, Shaver PR, Pereg D. Attachment Theory and Affect Regulation: The Dynamics, Development, and Cognitive Consequences of Attachment-Related Strategies Article. *Motiv Emot* 2003;27(2):77–102.
16. Shaver PR, Mikulincer M. Attachment-related psychodynamics. *Hum Dev* 2002;4(2):133–161.
17. Holmes BM, Johnson KR. Adult attachment and romantic partner preference: A review. *J Soc Pers Relat* 2009;26(6–7):833–852.
18. Chappell KD, Davis KE. Attachment, partner choice, and perception of romantic partners: An experimental test of the attachment-security hypothesis. *Pers Relatsh* 1998;5(3):327–342.
19. Shiota MN, Keltner D, John OP. Positive emotion dispositions differentially associated with Big Five personality and attachment style. *J Posit Psychol* 2006;1(2):61–71.
20. Clear SJ, Gardner AA, Webb HJ, et al. Common and distinct correlates of depression, anxiety, and aggression: Attachment and emotion regulation of sadness and anger. *J Adult Dev* 2019;Pages Not Listed.
21. Frey LL, Beesley D, Miller MR. Relational health, attachment, and psychological distress in college women and men. *Psychol Women Q* 2006;30(3):303–311.
22. American Psychological Association. Personality. *APA Dictionary of Psychology*. Retrieved from [www.dictionary.apa.org/personality](http://www.dictionary.apa.org/personality) (2020, accessed April 20, 2020).
23. Barenbaum NB, Winter DG. History of modern personality theory and research. In: John OP, Robins RW, Pervin LA, editors. *Handbook of personality, third edition: Theory and research*. New York, NY: Guilford Press; 2008. p3–28.
24. Woodworth RS. *Personal data sheet*. Chicago: C.H. Stoelting Company; 1917.
25. Gibby RE, Zickar MJ. A history of the early days of personality testing in American industry: An obsession with adjustment. *Hist Psychol* 2008;11(3):164–184.
26. Marsh HW, Lüdtke O, Muthén B, et al. A new look at the Big Five factor structure through exploratory structural equation modeling. *Psychol Assess* 2010;22(3):471–491.
27. John OP, Naumann LP, Soto CJ. Paradigm shift to the integrative Big Five trait

- taxonomy: History, measurement, and conceptual issues. In: John OP, Robins RW, Pervin LA, editors. *Handbook of Personality: Theory and Research*. New York: Guilford Press; 2008. p114–158.
28. Barrick MR, Mount MK, Judge TA. Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *Int J Sel Assess* 2001;9(1&2):9–30.
  29. Barrick MR, Mount, Michael K. The Big Five personality dimensions and job performance: A meta-analysis. *Pers Psychol* 1991;44(1):1–26.
  30. Trapmann S, Hell B, Hirn JOW, et al. Meta-analysis of the relationship between the Big Five and academic success at university. *J Psychol* 2007;215(2):132–151.
  31. Widiger TA, Mullins-Sweatt SN. Five-factor model of personality disorder: A proposal for DSM-V. *Annu Rev Clin Psychol* 2009;5(1):197–220.
  32. Uher J. Personality psychology: Lexical approaches, assessment methods, and trait concepts reveal only half of the story-Why it is time for a paradigm shift. *Integr Psychol Behav Sci* 2013;47(1):1–55.
  33. Goldberg LR. The structure of phenotypic personality traits. *Am Psychol* 1993;48(1):26–34.
  34. Goldberg LR. An alternative “description of personality”: The Big-Five factor structure. *J Pers Soc Psychol* 1990;59(6):1216–1229.
  35. McCrae RR, Costa Jr. PT. Personality trait structure as a human universal. *Am Psychol* 1997;52(5):509–516.
  36. Coker LA, Samuel DB, Widiger TA. Maladaptive personality functioning within the Big Five and the five-factor model. *J Pers Disord* 2002;16(5):385–401.
  37. Gosling SD, Rentfrow PJ, Swann WB. A very brief measure of the Big-Five personality domains. *J Res Pers* 2003;37(6):504–528.
  38. Costa Jr. PT, McCrae RR. The NEO inventories. In: Archer RP, Smith SR, editors. *Personality Assessment*. New York, NY: Taylor & Francis; 2011. p213–246.
  39. John OP, Donahue EM, Kentle RL. *The Big Five Inventory-Versions 4a and 54*. Berkeley, CA: University of California, Berkeley, Institute of Personality and Social Research; 1991.
  40. American Psychological Association. Personality disorder. *APA Dictionary of Psychology*. Retrieved from [www.dictionary.apa.org/personality-disorder](http://www.dictionary.apa.org/personality-disorder) (2020, accessed

- April 23, 2020).
41. Fleeson W, Gallagher P. The implications of Big Five standing for the distribution of trait manifestation in behaviour: Fifteen experience-sampling studies and a meta-analysis. *J Pers Soc Psychol* 2009;97(6):1097–1114.
  42. Cummings JA, Sanders L. Personality traits. In: *Introduction to Psychology*. Saskatoon, SK: University of Saskatchewan Open Press; 2019. p856–885.
  43. Costa Jr. PT, McCrae RR. The five-factor model of personality and its relevance to personality disorders. *J Pers Disord* 1992;6(4):343–359.
  44. Costa Jr. PT, McCrae RR. Personality disorders and the five-factor model of personality. *J Pers Disord* 1990;4(4):362–371.
  45. American Psychological Association. Histrionic personality disorder. *APA Dictionary of Psychology*. Retrieved from [www.dictionary.apa.org/histrionic-personality-disorder](http://www.dictionary.apa.org/histrionic-personality-disorder) (2020, accessed April 23, 2020).
  46. American Psychological Association. Narcissistic personality disorder. *APA Dictionary of Psychology*. Retrieved from [www.dictionary.apa.org/narcissistic-personality-disorder](http://www.dictionary.apa.org/narcissistic-personality-disorder) (2020, accessed April 23, 2020).
  47. American Psychological Association. Avoidant personality disorder. *APA Dictionary of Psychology*. Retrieved from [www.dictionary.apa.org/avoidant-personality-disorder](http://www.dictionary.apa.org/avoidant-personality-disorder) (2020, accessed April 23, 2020).
  48. American Psychological Association. Schizoid personality disorder. *APA Dictionary of Psychology*. Retrieved from [www.dictionary.apa.org/schizoid-personality-disorder](http://www.dictionary.apa.org/schizoid-personality-disorder) (2020, accessed April 23, 2020).
  49. Saulsman LM, Page AC. The five-factor model and personality disorder empirical literature: A meta-analytic review. *Clin Psychol Rev* 2004;23(8):1055–1085.
  50. American Psychiatric Association. Personality disorders. In: *Diagnostic and statistical manual of mental disorders: Fifth edition (DSM-5)*. Arlington, VA: American Psychiatric Association; 2013. p645–684.
  51. Shaver PR, Brennan KA. Attachment styles and the “Big Five” personality traits: Their connections with each other and with romantic relationship outcomes. *Personal Soc* 1992;18(5):536–545.
  52. Nofhle EE, Shaver PR. Attachment dimensions and the big five personality traits:

- Associations and comparative ability to predict relationship quality. *J Res Pers* 2006;40(2):179–208.
53. Kobak R. Adult attachment: A personality or relationship construct? *Psychol Inq* 1994;5(1):42–44.
  54. Morgan GA, Barrett KC, Leech NL, et al. Selecting and interpreting inferential statistics. In: *IMB SPSS for introductory statistics* (6th ed.). New York, NY: Routledge; 2020. p86–105.
  55. Ein-Dor T, Viglin D, Doron G. Extending the transdiagnostic model of attachment and psychopathology. *Front Psychol* 2016;7(MAR):1–6.
  56. McWilliams LA, Bailey SJ. Associations between adult attachment ratings and health conditions: Evidence from the national comorbidity survey replication. *Heal Psychol* 2010;29(4):446–453.
  57. Charles ST, Gatz M, Kato K, et al. Physical health 25 years later: The predictive ability of neuroticism. *Heal Psychol* 2008;27(3):369–378.
  58. Lahey BB. Public health significance of neuroticism. *Am Psychol* 2009;64(4):241–256.
  59. Widiger TA, Oltmanns JR. Neuroticism is a fundamental domain of personality with enormous public health implications. *World Psychiatry* 2017;16(2):144–145.
  60. Mikulincer M, Shaver PR. Attachment bases of psychopathology. In: *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). New York, NY: Guilford Press; 2016. p395–442.
  61. Meyer B, Pilkonis PA, Proietti JM, et al. Attachment styles and personality disorders as predictors of symptom course. *J Pers Disord* 2001;15(5):371–389.
  62. MacDonald K, Berlow R, Thomas ML. Attachment, affective temperament, and personality disorders: A study of their relationships in psychiatric outpatients. *J Affect Disord* 2013;151(3):932–941.
  63. Fossati A, Feeney JA, Donati D, et al. Personality disorders and adult attachment dimensions in a mixed psychiatric sample: A multivariate study. *J Nerv Ment Dis* 2003;191(1):30–37.
  64. Brennan KA, Shaver PR. Attachment styles and personality disorders: Their connections to each other and to parental divorce, parental death, and perceptions of parental caregiving. *J Pers* 1998;66(5):835–878.

65. Young ES, Simpson JA, Griskevicius V, et al. Childhood attachment and adult personality: A life history perspective. *Self Identity* 2017;July22–38.
66. Girme YU, Jones RE, Fleck C, et al. Infants' attachment insecurity predicts attachment-relevant emotion regulation strategies in adulthood. *Emotion* 2020;January1–13.
67. Slade A, Holmes J. Attachment and psychotherapy. *Curr Opin Psychol* 2019;25(1):152–156.
68. Bowlby J. Pathways for the growth of personality. In: *Attachment and loss: Separation: Anxiety and anger* (Vol. 2). London: Pimlico; 1998. p411–418.
69. Kirkpatrick LA, Hazan C. Attachment styles and close relationships: A four-year prospective study. *Pers Relatsh* 1994;1(2):123–142.
70. Costa Jr. PT, McCrae RR. The influences of personality on the life course. In: *Personality in adulthood: A five-factor theory perspective* (2nd ed.). New York, NY: Guilford Press; 2003. p161–183.
71. Zhang F, Labouvie-Vief G. Stability and fluctuation in adult attachment style over a 6-year period. *Attach Hum Dev* 2004;6(4):419–437.
72. Roberts BW, Walton KE, Viechtbauer W. Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychol Bull* 2006;132(1):1–25.
73. Taylor P, Rietzschel J, Danquah A, et al. Changes in attachment representations during psychological therapy. *Psychother Res* 2015;25(2):222–238.
74. Dansby Olufowote RA, Fife ST, Schleiden C, et al. How can I become more secure?: A grounded theory of earning secure attachment. *J Marital Fam Ther* 2019;October1–18.
75. Roberts BW, Luo J, Briley DA, et al. A systematic review of personality trait change through intervention. *Psychol Bull* 2017;143(2):117–141.
76. Barnes GL, Woolgar M, Beckwith H, et al. John Bowlby and contemporary issues of clinical diagnosis. *Attach New Dir Psychother Relational Psychoanal* 2018;12(1):1–12.
77. Tran SS, Simpson JA. Prorelationship maintenance behaviors: The joint roles of attachment and commitment. *J Pers Soc Psychol* 2009;97(4):685–698.
78. Keefe JR, Derubeis RJ. Changing character: A narrative review of personality change in psychotherapies for personality disorder. *Psychother Res* 2019;29(6):752–769.
79. Fonagy P, Bateman A. The development of borderline personality disorder-A mentalizing

- model. *J Pers Disord* 2008;22(1):4–21.
80. Fonagy P, Bateman AW. Mechanisms of change in Mentalization-Based treatment of BPD. *J Clin Psychol* 2006;62(4):411–430.
  81. Bateman AW, Fonagy P. What is mentalizing? In: *Mentalization-based treatment for personality disorders: A practical guide*. Oxford: Oxford University Press; 2016. p3–38.
  82. Bo S, Sharp C, Beck E, et al. First empirical evaluation of outcomes for mentalization-based group therapy for adolescents with BPD. *Personal Disord Theory, Res Treat* 2017;8(4):396–401.
  83. Hauber K, Boon A, Kuipers G, et al. Adolescent attachment insecurity and the influence of MBT. *Attach Hum Dev* 2020;22(2):157–173.
  84. Jinyao Y, Xiongzha Z, Auerbach RP, et al. Insecure attachment as a predictor of depressive and anxious symptomology. *Depress Anxiety* 2012;29(9):789–796.
  85. Sund AM, Wichstrøm L. Insecure attachment as a risk factor for future depressive symptoms in early adolescence. *J Am Acad Child Adolesc Psychiatry* 2002;41(12):1478–1485.
  86. Vogt KS, Norman P. Is mentalization-based therapy effective in treating the symptoms of borderline personality disorder? A systematic review. *Psychol Psychother Theory, Res Pract* 2019;92(4):441–464.
  87. Kvarstein EH, Pedersen G, Urnes Ø, et al. Changing from a traditional psychodynamic treatment programme to mentalization-based treatment for patients with borderline personality disorder - Does it make a difference? *Psychol Psychother Theory, Res Pract* 2015;88(1):71–86.
  88. Bateman A, Fonagy P. Randomized controlled trial of outpatient mentalization-based treatment versus structured clinical management for borderline personality disorder. *Am J Psychiatry* 2009;166(12):1355–1364.
  89. Volkert J, Hauschild S, Taubner S. Mentalization-based treatment for personality disorders: Efficacy, effectiveness, and new developments. *Curr Psychiatry Rep* 2019;21(4):1–12.
  90. Lorenzini N, Fonagy P. Attachment and personality disorders: A short review. *J Lifelong Learn Psychiatry* 2013;11(2):155–166.
  91. Levy KN, Johnson BN, Clouthier TL, et al. An attachment theoretical framework for

- personality disorders. *Can Psychol* 2015;56(2):197–207.
92. Clarkin JF, Levy KN. Psychotherapy for patients with borderline personality disorder: Focusing on the mechanisms of change. *J Clin Psychol* 2006;62(4):405–410.
  93. Levy KN, Johnson BN, Gooch C V., et al. Attachment style. In: Norcross JC, Wampold BE, editors. *Psychotherapy relationships that work* (Vol. 2, 3rd ed.). New York, NY: Oxford University Press; 2019. p15–55.
  94. Trull TJ, Durrett CA. Categorical and dimensional models of personality disorder. *Annu Rev Clin Psychol* 2005;1(1):355–380.
  95. Blashfield RK, Keeley JW, Flanagan EH, et al. The cycle of classification: DSM-I through DSM-5. *Annu Rev Clin Psychol* 2014;10(1):25–51.
  96. Strand M. Where do classifications come from? The DSM-III, the transformation of American psychiatry, and the problem of origins in the sociology of knowledge. *Theory Soc* 2011;40(3):273–313.
  97. Gunderson JG, Links PS, Reich JH. Competing models of personality disorders. *J Pers Disord* 1991;5(1):60–69.
  98. Simonsen E. The integration of categorical and dimensional approaches to psychopathology. In: *Contemporary directions in psychopathology: Scientific foundations of the DSM-V and ICD-11*. 2010. p350–361.
  99. Smith DT. Introduction: Under the influence of the biomedical model. In: *Medicine over mind: Mental health practice in the biomedical era* [E-reader version]. New Brunswick, NJ: Rutgers University Press; 2019. p230 (Individual Pages Not Numbered).
  100. Kirk SA, Kutchins H. The myth of the reliability of DSM. *J Mind Behav* 1994;Vol. 15(1–2):71–86.
  101. Vanheule S. Introduction. In: *Diagnosis and the DSM: A critical review*. New York, NY: Palgrave Macmillan; 2014. p1–3.
  102. Chmielewski M, Clark LA, Michael Bagby R, et al. Method matters: Understanding diagnostic reliability in DSM-IV and DSM-5. *J Abnorm Psychol* 2015;124(3):764–769.
  103. Widiger TA, Trull TJ. Plate tectonics in the classification of personality disorder: Shifting to a dimensional model. *Am Psychol* 2007;62(2):71–83.
  104. Krueger RF. Criterion B of the AMPD and the interpersonal, multivariate, and empirical paradigms of personality assessment. In: Hopwood CJ, Mulay AL, Waugh MH, editors.

- The DSM-5 alternative model for personality disorders: Integrating multiple paradigms of personality assessment (E-reader version). New York, NY: Routledge; 2019. p290 (Individual pages not listed).
105. Zachar P, Krueger RF, Kendler KS. Personality disorder in DSM-5: An oral history. *Psychol Med* 2016;46(1):1–10.
  106. Stuart S, Pfohl B, Battaglia M, et al. The cooccurrence of DSM-III-R personality disorders. *J Pers Disord* 1998;12(4):302–315.
  107. Pulay AJ, Stinson FS, Dawson DA, et al. Prevalence, correlates, disability, and comorbidity of DSM-IV schizotypal personality disorder: Results from the wave 2 National Epidemiologic survey on alcohol and related conditions. *Prim Care Companion J Clin Psychiatry* 2009;11(2):53–67.
  108. Johnson BN, Levy KN. Personality disorder not otherwise specified (PDNOS). In: Zeigler-Hill V, Shackelford TK, editors. *Encyclopedia of Personality and Individual Differences* (E-reader version). Cham, Switzerland: Springer International Publishing; 2017. p1–11.
  109. Esbec W, Echeburúa E. New criteria for personality disorders in DSM-V. *Spanish Acts Psychiatry* 2011;39(1):1–11.
  110. Hengartner MP, Lehmann SN. Why psychiatric research must abandon traditional diagnostic classification and adopt a fully dimensional scope: Two solutions to a persistent problem. *Front Psychiatry* 2017;8(June):1–5.
  111. Rajakannan T, Safer DJ, Burcu M, et al. National trends in psychiatric not otherwise specified (nos) diagnosis and medication use among adults in outpatient treatment. *Psychiatr Serv* 2016;67(3):289–295.
  112. Johansen M, Karterud S, Pedersen G, et al. An investigation of the prototype validity of the borderline DSM-IV construct. *Acta Psychiatr Scand* 2004;109(4):289–298.
  113. American Psychiatric Association. Alternative DSM-5 model for personality disorders. In: *Diagnostic and statistical manual of mental disorders: Fifth edition (DSM-5)*. Arlington, VA: American Psychiatric Association; 2013. p761–781.
  114. Samuel DB, Hopwood CJ, Krueger RF, et al. Comparing methods for scoring personality disorder types using maladaptive traits in DSM-5. *Assessment* 2013;20(3):353–361.
  115. Waugh MH, Hopwood CJ, Krueger RF, et al. Psychological assessment with the DSM-5

- alternative model for personality disorders: Tradition and innovation. *Prof Psychol Res Pract* 2017;48(2):79–89.
116. Widiger TA. Categorical versus dimensional classification: Implications from and for research. *J Pers Disord* 1992;6(4):287–300.
  117. Bernstein DP, Iscan C, Maser J. Opinions of personality disorder experts regarding the DSM-IV personality disorders classification system. *J Pers Disord* 2007;21(5):536–551.
  118. Meehl PE. Bootstraps taxometrics: Solving the classification problem in psychopathology. *Am Psychol* 1995;50(4):266–275.
  119. Welch S, Klassen C, Borisova O, et al. The DSM-5 controversies: How should psychologists respond? *Can Psychol* 2013;54(3):166–175.
  120. Krueger RF, Derringer J, Markon KE, et al. Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychol Med* 2012;42(9):1879–1890.
  121. Krueger RF, Markon KE. The role of the DSM-5 personality trait model in moving toward a quantitative and empirically based approach to classifying personality and psychopathology. *Annu Rev Clin Psychol* 2014;10(1):477–501.
  122. Bach B, Sellbom M, Simonsen E. Personality Inventory for DSM-5 (PID-5) in clinical versus nonclinical individuals: Generalizability of psychometric features. *Assessment* 2018;25(7):815–825.
  123. Grilo CM, McGlashan TH, Morey LC, et al. Internal consistency, intercriterion overlap and diagnostic efficiency of criteria sets for DSM-IV schizotypal, borderline, avoidant and obsessive-compulsive personality disorders. *Acta Psychiatr Scand* 2001;104(1):264–272.
  124. Gore WL, Widiger TA. The DSM-5 dimensional trait model and five-factor models of general personality. *J Abnorm Psychol* 2013;122(3):816–821.
  125. Thimm JC, Jordan S, Bach B. The Personality Inventory for DSM-5 Short Form (PID-5-SF): Psychometric properties and association with big five traits and pathological beliefs in a Norwegian population. *BMC Psychol* 2016;4(1):1–11.
  126. Skodol AE, Clark LA, Bender DS, et al. Proposed changes in personality and personality disorder assessment and diagnosis for DSM-5 part I: Description and rationale. *Personal Disord Theory, Res Treat* 2011;2(1):4–22.
  127. Skodol AE, Bender DS, Morey LC, et al. Personality disorder types proposed for DSM-5. *J Pers Disord* 2011;25(2):136–169.

128. Disney KL. Dependent personality disorder: A critical review. *Clin Psychol Rev* 2013;33(8):1184–1196.
129. Rojas SL, Widiger TA. Coverage of the DSM-IV-TR/DSM-5 section II personality disorders with the DSM-5 dimensional trait model. *J Pers Disord* 2017;31(4):462–482.
130. Skodol AE, Morey LC, Bender DS, et al. The alternative DSM-5 model for personality disorders: A clinical application. *Am J Psychiatry* 2015;172(7):606–613.
131. Morey LC, Skodol AE, Oldham JM. Clinician judgments of clinical utility: A comparison of DSM-IV-TR personality disorders and the alternative model for DSM-5 personality disorders. *J Abnorm Psychol* 2014;123(2):398–405.
132. Morey LC, Hopwood CJ. Expert preferences for categorical, dimensional, and mixed/hybrid approaches to personality disorder diagnosis. *J Pers Disord* 2019;33(Jan):1–8.
133. Garcia DJ, Skadberg RM, Schmidt M, et al. It's not that difficult: An interrater reliability study of the DSM–5 section III alternative model for personality disorders. *J Pers Assess* 2018;100(6):612–620.
134. Sheehan L, Nieweglowski K, Corrigan P. The stigma of personality disorders. *Curr Psychiatry Rep* 2016;18(11):1–7.
135. Lounsbury JW, Levy JJ, Leong FT, et al. Identity and personality: The Big Five and narrow personality traits in relation to sense of identity. *Identity An Int J Theory Res* 2007;7(1):51–70.
136. Lounsbury JW, Loveland JM, Gibson LW. An investigation of psychological sense of community in relation to Big Five personality traits. *J Community Psychol* 2003;31(5):531–541.
137. Hall JA, Schlegel K, Castro VL, et al. What laypeople think the Big Five trait labels mean. *J Res Pers* 2019;78(February):268–285.
138. Rosa-Mendes M, Pires R, Ferreira AS. Personality traits of the alternative DSM-5 model and the attachment dimensions in Portuguese adults. *Pers Individ Dif* 2019;143(June 2018):21–29.
139. Lewis JJ. Attachment insecurity, emotion regulation difficulties, and mindfulness deficits in personality pathology. *ProQuest Diss Theses* 2016;2(4):1–165.
140. Fossati A, Krueger RF, Markon KE, et al. The DSM-5 alternative model of personality

- disorders from the perspective of adult attachment: A study in community-dwelling adults. *J Nerv Ment Dis* 2015;203(4):252–258.
141. Paris J. Preface. In: Paris J, Phillips J, editors. *Making the DSM-5: Concepts and Controversies*. New York, NY: Springer; 2013. pv–vi.
  142. Hopwood CJ, Wright AGC, Ansell EB, et al. The interpersonal core of personality pathology. *J Pers Disord* 2013;27(3):270–295.
  143. Johansson P, Høglend P. Identifying mechanisms of change in psychotherapy: Mediators of treatment outcome. *Clin Psychol Psychother* 2007;14(1):1–9.
  144. Kramer U. Mechanisms of change in treatments of personality disorders: Commentary on the special section. *J Pers Disord* 2018;32(Special Issue):1–11.
  145. American Psychiatric Association. Online assessment measures. Retrieved from [www.psychiatry.org/psychiatrists/practice/dsm/educational-resources/assessment-measures](http://www.psychiatry.org/psychiatrists/practice/dsm/educational-resources/assessment-measures) (2013, accessed May 24, 2020).
  146. Thomas KM, Yalch MM, Krueger RF, et al. The convergent structure of DSM-5 personality trait facets and five-factor model trait domains. *Assessment* 2013;20(3):308–311.
  147. Suzuki T, Samuel DB, Pahlen S, et al. DSM-5 alternative personality disorder model traits as maladaptive extreme variants of the five-factor model: An item-response theory analysis. *J Abnorm Psychol* 2015;124(2):343–354.
  148. Barchi-Ferreira AM, Loureiro SR, Torres AR, et al. Personality inventory for DSM-5 (PID-5): Cross-cultural adaptation and content validity in the brazilian context. *Trends Psychiatry Psychother* 2019;41(3):297–300.
  149. Anderson JL, Sellbom M, Salekin RT. Utility of the Personality Inventory for DSM-5–Brief Form (PID-5-BF) in the measurement of maladaptive personality and psychopathology. *Assessment* 2018;25(5):596–607.
  150. Gomez R, Watson S, Stavropoulos V. Personality Inventory for DSM-5, Brief Form: Factor structure, reliability, and coefficient of congruence. *Personal Disord Theory, Res Treat* 2020;11(1):69–77.
  151. Fossati A, Somma A, Borroni S, et al. The Personality Inventory for DSM-5 Brief Form: Evidence for reliability and construct validity in a sample of community-dwelling Italian adolescents. *Assessment* 2017;24(5):615–631.

152. Porcerelli JH, Hopwood CJ, Jones JR. Convergent and discriminant validity of Personality Inventory for DSM-5-BF in a primary care sample. *J Pers Disord* 2019;33(6):846–856.
153. Brennan KA, Clark CL, Shaver PR. Self-report measurement of adult romantic attachment: An integrative overview. In: Simpson JA, Rholes WS, editors. *Attachment theory and close relationships*. New York, NY: Guilford Press; 1998. p46–76.
154. Mikulincer M, Shaver PR. Measurement of attachment-related constructs in adulthood. In: *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). New York, NY: Guilford Press; 2016. p75–108.
155. Shi L, Wampler R, Wampler K. Categorical or dimensional: How do attachment measures inform clinicians in couple therapy? *J Fam Psychother* 2014;25(1):12–25.
156. Rholes WS, Paetzold RL. Attachment and the transition to parenthood. In: Taubman-Ben-Ari O, editor. *Pathways and barriers to parenthood: Existential concerns regarding fertility, pregnancy, and early parenthood*. Springer Nature; 2019. p291–304.
157. Le T. Personal communication (November 25). 2019;1.
158. Glen S. Cronbach’s alpha: Simple definition, use and interpretation. *Statistics How To*. Retrieved from [www.statisticshowto.com/cronbachs-alpha-spss/](http://www.statisticshowto.com/cronbachs-alpha-spss/) (2014, accessed September 5, 2020).
159. Meng X, Rosenthal R, Rubin DB. Comparing correlated correlation coefficients. *Quant Methods Psychol* 1992;11(1):172–175.
160. Lenhard W, Lenhard A. Hypothesis tests for comparing correlations. *Psychometrica*. Retrieved from [www.psychometrica.de/correlation.html](http://www.psychometrica.de/correlation.html) (2014, accessed December 11, 2020).
161. Kafetsios K, Nezlek JB. Attachment styles in everyday social interaction. *Eur J Soc Psychol* 2002;32(5):719–735.
162. Allen M. Variables, Marker. In: *The SAGE encyclopedia of communication research methods* (Vols. 1-4). Thousand Oaks, California: SAGE Publications, Inc.; 2017. pN/A.
163. Griffin D, Bartholomew K. Models of the self and other: Fundamental dimensions underlying measures of adult attachment. *Interpers Relations Gr Process* 1994;67(3):430–445.
164. Michikyan M, Subrahmanyam K, Dennis J. Can you tell who I am? Neuroticism, extraversion, and online self-presentation among young adults. *Comput Human Behav*

- 2014;33(April):179–183.
165. D’Agostino A, Covanti S, Rossi Monti M, et al. Reconsidering emotion dysregulation. *Psychiatr Q* 2017;88(4):807–825.
  166. Thompson RA. Emotion dysregulation: A theme in search of definition. *Dev Psychopathol* 2019;31(3):805–815.
  167. Hofmann SG, Sawyer AT, Fang A, et al. Emotion dysregulation model of mood and anxiety disorders. *Depress Anxiety* 2012;29(5):409–416.
  168. Glenn CR, Klonsky ED. Emotion dysregulation as a core feature of borderline personality disorder. *J Pers Disord* 2009;23(1):20–28.
  169. Shaw P, Stringaris A, Nigg J, et al. Emotion dysregulation in attention deficit hyperactivity disorder. *Am J Psychiatry* 2014;171(3):276–293.
  170. Samson AC, Phillips JM, Parker KJ, et al. Emotion dysregulation and the core features of autism spectrum disorder. *J Autism Dev Disord* 2014;44(7):1766–1772.
  171. Merwin RM. Anorexia nervosa as a disorder of emotion regulation: Theory, evidence, and treatment implications. *Clin Psychol Sci Pract* 2011;18(3):208–2014.
  172. Gratz KL. Targeting emotion dysregulation in the treatment of self-injury. *J Clin Psychol* 2007;63(11):1091–1103.
  173. Bradley B, DeFife JA, Guarnaccia C, et al. Emotion dysregulation and negative affect: Association with psychiatric symptoms. *J Clin Psychiatry* 2011;72(5):685–691.
  174. Kokkonen M, Pulkkinen L. Extraversion and neuroticism as antecedents of emotion regulation and dysregulation in adulthood. *Eur J Pers* 2001;15(6):407–424.
  175. Ben-Porath YS. Assessing personality and psychopathology with self-report inventories. In: Weiner I, Graham J, Naglieri J, editors. *Handbook of Psychology Volume 10: Assessment Psychology*. Hoboken, NJ: John Wiley & Sons; 2003. p553–578.
  176. Samuel DB, Sanislow CA, Hopwood CJ, et al. Convergent and incremental predictive validity of clinician, self-report, and structured interview diagnoses for personality disorders over 5 years. *J Consult Clin Psychol* 2013;81(4):650–659.
  177. Teyber E, Teyber F. Chapter 6: Familial and developmental factors. In: *Interpersonal process in therapy (7th ed.)*. USA: Cengage Learning, Inc.; 2019. p183–222.
  178. Wolridge T. “Boys don’t cry” — How stereotypes of masculinity harm boys and men. *American Psychiatric Association’s Public Interest Directorate*. Retrieved from

- [www.apa.org/pi/about/newsletter/2016/10/redefining-masculinity](http://www.apa.org/pi/about/newsletter/2016/10/redefining-masculinity) (2016, accessed May 26, 2020).
179. Burn SM, Ward AZ. Men's conformity to traditional masculinity and relationship satisfaction. *Psychol Men Masculinity* 2005;6(4):254–263.
  180. McQueen F. Male emotionality: 'Boys don't cry' versus 'it's good to talk.' *Int J Masculinity Stud* 2017;12(3–4):205–219.
  181. Del Giudice M. Sex differences in romantic attachment: A meta-analysis. *Personal Soc Psychol Bull* 2011;37(2):193–214.
  182. Scharfe E. Sex differences in attachment. In: Shackelford T, Weekes-Shackelford V, editors. *Encyclopedia of Evolutionary Psychological Science*. Springer, Cham; 2016. p5.
  183. Dixon-Gordon KL, Turner BJ, Chapman AL. Psychotherapy for personality disorders. *Int Rev Psychiatry* 2011;23(3):282–302.
  184. Hadjipavlou G, Ogrodniczuk JS. Promising psychotherapies for personality disorders. *Can J Psychiatry* 2010;55(4):202–210.
  185. Clinical research. *Canadian Institutes of Health Research*. Retrieved from [www.cihr-irsc.gc.ca/e/48805.html](http://www.cihr-irsc.gc.ca/e/48805.html) (2019, accessed February 8, 2021).
  186. Pratt LA. Characteristics of adults with serious mental illness in the United States household population in 2007. *Psychiatr Serv* 2012;63(10):1042–1046.
  187. Nehlin C, Grönbladh L, Fredriksson A, et al. Alcohol and drug use, smoking, and gambling among psychiatric outpatients: A 1-year prevalence study. *Subst Abus* 2013;34(2):162–168.
  188. Chuang HT, Mansell C, Patten SB. Lifestyle characteristics of psychiatric outpatients. *Can J Psychiatry* 2008;53(4):260–266.
  189. Beckwith H, Moran P, Reilly J. Personality disorder prevalence in psychiatric outpatients: A systematic literature review. *Personal Ment Health* 2014;8(January):91–101.
  190. Foote B, Smolin Y, Kaplan M, et al. Prevalence of dissociative disorders in psychiatric outpatients. *Am J Psychiatry* 2006;163(4):623–629.
  191. Zimmerman M, Rothschild L, Chelminski I. The prevalence of DSM-IV personality disorders in psychiatric outpatients. *Am J Psychiatry* 2005;162(October):1911–1918.
  192. Collins NL. Working models of attachment: Implications for explanation, emotion, and behavior. *J Pers Soc Psychol*;71(810–832):.

193. Maxwell SE, Lau MY, Howard GS. Is psychology suffering from a replication crisis?: What does “failure to replicate” really mean? *Am Psychol* 2015;70(6):487–498.
194. Anderson S, Maxwell S. Addressing the “replication crisis”: Using original studies to design replication studies with appropriate statistical power. *Multivariate Behav Res* 2017;52(3):305–324.
195. Finch EF, Iliakis EA, Masland SR, et al. A meta-analysis of treatment as usual for borderline personality disorder. *Personal Disord Theory, Res Treat* 2019;10(6):491–499.
196. Löfholm CA, Brännström L, Olsson M, et al. Treatment-as-usual in effectiveness studies: What is it and does it matter? *Int J Soc Welf* 2013;22(1):25–34.
197. Burns T. End of the road for treatment-as-usual studies? *Br J Psychiatry* 2009;195(1):5–6.
198. Daubney M, Bateman A. Mentalization-based therapy (MBT): An overview. *Australas Psychiatry* 2015;23(2):132–135.
199. Flückiger C, Del Re AC, Wampold BE, et al. How central is the alliance in psychotherapy? A multilevel longitudinal meta-analysis. *J Couns Psychol* 2012;59(1):10–17.
200. Arnow BA, Steidtmann D. Harnessing the potential of the therapeutic alliance. *World Psychiatry* 2014;13(3):238–240.
201. Timimi S. No more psychiatric labels: Why formal psychiatric diagnostic systems should be abolished. *Int J Clin Heal Psychol* 2014;14(3):208–215.
202. Kinderman P. A manifesto for the reform of mental health and wellbeing services. In: *A prescription for psychiatry: Why we need a whole new approach to mental health and wellbeing*. United Kingdom: Palgrave Macmillan; 2014. p186–192.