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PSYCHOPATHY AND THE HEXACO PERSONALITY MODEL

by

M. Todd Lobrano, B.S., M.A.

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

COLLEGE OF EDUCATION
LOUISIANA TECH UNIVERSITY

March 2014

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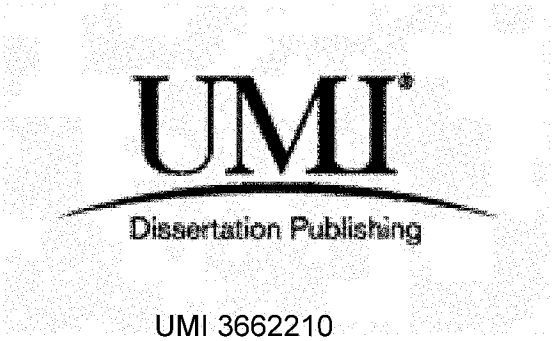

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ABSTRACT

Within the recently published DSM-5, alternative diagnostic criteria for personality disorders have been offered (American Psychiatric Association [APA], 2013). These changes allow for a more dimensional diagnostic system than has been previously used while maintaining some aspects of a categorical system (Skodol et al., 2011). These changes also include a description of specific traits that characterize personality disorders and make it possible for measures of normal personality to have a more significant impact in their diagnosis. Relevant to the present study are the changes in the diagnosis of antisocial personality disorder and psychopathy, considered by many to be an extreme variant of antisocial personality disorder (Cloninger, Svrakic, Bayon, & Przybeck, 1999; Lynam, 2002; Miller, Lynam, Widiger, & Leukefeld, 2001). While a volume of research has been conducted on the use of the Five-Factor Model in describing psychopathic characteristics (Costa & McCrae, 1990; Dyce & O'Connor, 1998; Lynam & Widiger, 2001), little research has been conducted that investigates the effectiveness of a six-factor personality model, such as the HEXACO, in defining psychopathy (Lee & Ashton, 2005).

The present study investigated the effectiveness of the HEXACO personality model in describing trait-level characteristics of psychopathy in a student sample and a prison sample. Twenty-two HEXACO facets were found to be significant predictors of psychopathy. The results from the student population were consistent with the hypothesized relationships; however, the results from the inmate population were

contrary to the literature and the proposed hypotheses. Future study utilizing a larger sample is necessary in order to determine more definite relationships and viability of a measure of normal personality in the prediction of psychopathy.

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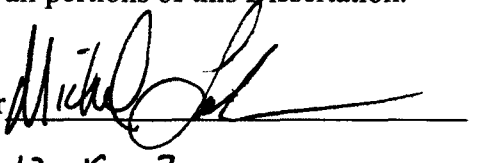
Author 

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DEDICATION

I would like to dedicate this endeavor to my wife and children. Without their support, patience, and occasional well-intentioned "nudge," I would not have been motivated to persevere.

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CHAPTER ONE

INTRODUCTION

For the past two decades, there has been an enduring debate concerning whether a categorical or a dimensional diagnostic model in diagnosing personality disorders should be followed (Widiger, 1996; Widiger & Samuel, 2005). This is not to imply that categorical or dimensional diagnostic systems are limited to personality disorders, rather they apply to the diagnosis of mental health issues as a whole. However, the impact of this debate bears particular relevance concerning the present study and the diagnosis of personality disorders. Specifically, this debate concerns the question of whether mental disorders, personality disorders in particular, are distinct conditions in themselves, or are they better explained in terms of severity of characteristic symptoms (Widiger & Samuel, 2005).

In order to fully comprehend this debate, an understanding of the concepts of "categorical" and "dimensional" is necessary. In short, what do these notions mean in terms of the diagnosis of mental disorders? A categorical system is a system that enables mental disorders to be categorized into distinct sets of disorders that are demarcated by specific characteristics. The merits of a system such as this are in its ability to provide a relatively easy method to diagnose and treat a mental disease and provide a utilitarian and common professional language.

A dimensional diagnostic system describes characteristics or traits of mental disorders along a continuum of severity. Widiger has been among the most outspoken professionals espousing the benefits of a dimensional model (Morey, Gunderson, Quigley, & Lyons, 2000). While considering Widiger's perspective, personality researchers have long been interested in developing a method of diagnosing personality disorders that would enable a "systematic classification of the thousands of personality attributes" (Morey et al., 2000, p. 204) found in numerous descriptions of personality. As an example, the DSM-IV-TR (APA, 2000) utilizes a categorical diagnostic model that has posed numerous problems in diagnosing personality disorders (Widiger, 1996). However, the alternative diagnostic criterion in the new DSM-5 is a model that incorporates qualities of dimensional classification (APA, 2013).

The diagnosis of personality disorders described in the alternative diagnostic criteria in the DSM-5 is composed of a combination of categorical and dimensional diagnostic orientations. The alternative diagnostic criteria marks a dramatic (Widiger, 2011) shift in conceptualization of how personality disorders are diagnosed. The DSM-5 alternative criteria not only offers a change to the way personality pathology is understood and defined, prototypes of the relevant personality disorders are described. The prototypical representation of antisocial personality disorder bears the most relevance to the current study. These prototypes are characterized by traits that "maximized the strengths of various models [of personality]" (Skodol et al., 2011, p. 13). Therefore, it is proposed that measures of normal personality could play a much larger role in the detection of personality disorders than they have in the past.

A number of studies have been conducted that describe the relationship between normal personality constructs such as the Five Factor Model (FFM; Widiger & Costa, 1994), a 15-factor model (Clark, 1993a), a 7-factor model (Cloninger et al., 1999), and an 18-factor model (Livesley, 1998) and personality pathology. There is well-documented evidence that supports the DSM-IV-TR (APA, 2000) diagnostic categories as identifying "meaningful maladaptive personality traits" (Lynam & Widiger, 2001, p. 401) in antisocial, borderline, schizotypal, narcissistic, and dependent personality disorders (Bornstein, 1992; Clarkin, Marziali, & Monroe-Blum, 1992; Raine, Lencz, & Mednick, 1995; Ronningstam, 1998; Stoff, Breilings, & Maser, 1997). Although these personality models have been the subject of numerous studies that have attempted to identify normal personality traits characteristic of personality disorders, perhaps the most widely studied of these is the FFM. Dyce and O'Connor (1998) defined several personality disorders based on the diagnostic criteria presented in the DSM-IV-TR in terms of their specific traits from the FFM.

There is some evidence that shows that the HEXACO model may be not only a viable alternative, but in some ways a superior theoretical model than the FFM. Ashton and Lee (2007) found in their study that a six-factor model is "more widely replicated than the B5/FFM" (p. 155), and this could be partly due to a domain structure that distinguishes traits in a different manner. They state conceptual differences such as "the domains of Honesty-Humility, Agreeableness (versus Anger), and Emotionality are explained in terms of biologists' constructs of reciprocal and kin altruism" (p. 155). Fewer studies have investigated the ability of the HEXACO model, a six-factor structure of personality, (Ashton & Lee, 2007) to capture personality disorders. However, if the

HEXACO was examined in light of the FFM, an understanding of its capabilities may be derived. Numerous studies have been conducted that examined the ability of the NEO Personality Inventory – Revised (NEO PI-R; Costa & McCrae 1992), an operationalization of the FFM, to assess personality disorders. It would be beneficial to assess whether or not the HEXACO Personality Inventory – Revised, an operationalization of the HEXACO model, would perform similarly.

With respect to Antisocial Personality Disorder (APD), many consider psychopathy to be an extreme variant of this personality disorder (Miller et al., 2001). Skodol and colleagues (2011) developed the prototype of APD based in part on Patrick, Fowles, and Krueger's (2009) study of psychopathy. Patrick and colleagues concluded that there were three primary traits characteristics of psychopathic individuals: disinhibition, boldness, and meanness. Skodol and his fellow work group members described APD, incorporating the notions of disinhibition and meanness, as having traits of manipulativeness, deceitfulness, callousness, irresponsibility, impulsivity, and risk-taking that are included in Cleckley's (1941), Hare's (1999), and Lilienfeld and Andrews' (1996) trait characterizations of psychopathic individuals. With exception to the theory proposed by Lilienfeld, all other theories of psychopathy incorporate behaviors, primarily criminal-type behaviors, as hallmarks of this disorder. Lilienfeld provides distinct personality traits as the defining characteristics of psychopathic individuals that provide significant utility in the development of a psychopathic profile within the HEXACO PI-R.

Essentially, because of the changes in the diagnosis of personality disorders offered in the DSM-5 alternative criteria, this creates the possibility to describe

personality pathology in terms of normal personality traits. Therefore, in terms of describing psychopathy, Lilienfeld's theory bears particular relevance due to its basis in personality characteristics. Additionally and perhaps more importantly, Lilienfeld and Andrews (1996) proposed that psychopathic features do not necessarily exist only in criminals. He concluded that psychopathic individuals must, and probably do, live and work among "normal" people. It may be easier to identify these individuals if specific profiles and scales are developed in terms of normal personality traits. This could enhance future conceptualization of this disorder, not to mention, enable targeted treatment alternatives.

The HEXACO model provides a worthwhile candidate from which to develop an understanding of this disorder based on its cross-cultural superiority to other personality models. From traits derived from the DSM-5 alternative diagnostic criteria, a theoretical personality profile can be derived using the HEXACO PI-R that reflects APD. At present, there is little documented research using the HEXACO in this manner. This study enhanced further research in this area as well as provided additional validation of the utility of the HEXACO PI-R.

Personality Theories

Personality theories are an essential part of the study of psychology. The theories of personality, derived by the major contributing theorists (e. g., Sigmund Freud), addressed personality in an effort to explain mental processes and behaviors, with the focus often being maladaptive or pathological behaviors. The Merriam-Webster Collegiate Dictionary (2004) defines personality as "a set of distinctive traits and characteristics." In a more detailed description of personality, Allport (1961) defined

personality as the "dynamic organization within the individual of those psychophysical systems that determine his unique adjustments to the environment" (p. 48). Therefore, the study of personality can be interpreted as the study of the distinctive traits and characteristics within individuals in an effort to provide a framework for organizing and understanding differences between them.

The Greeks

Historically, personality has been studied as far back as during the time of ancient Greece (Chamorro-Premuzic, 2007). Descriptions of personality traits may be seen in Hippocrates' and Galen's descriptions of the "four humors" (Chamorro-Premuzic, 2007), Plato's writings on the three aspects of the psyche (Pomerleau, 1997), Empedocles' concepts of the four elements (fire, earth, air, and water) being linked to human behavior (Kingsley, 1995), and in Aristotle's prototypical character writings (Doris, 2002). These Greek philosophers were among the first to document, examine, and theorize that there were characterological elements within an individual that influenced behaviors and demeanor. Their relevance to the current topic is that these were the first attempts to place personality into distinct categorical types.

Hippocrates and Galen were early physicians who postulated that there were four bodily fluids, or "humors," that were responsible for an individual's physical health and personal disposition. Excesses of these fluids were believed to be the source of specific personality or characterological traits of individuals such as irritability, depression, optimism, and tranquility. Specifically, the four humors were yellow bile, which corresponded to a choleric humor; black bile, which corresponded to a melancholic humor; blood, which corresponded to a sanguine humor; and phlegm, which

corresponded to a phlegmatic humor. An excess of yellow bile would cause an individual to become choleric, or irritable. An excess of black bile would cause an individual to become melancholic, or depressed. An excess of blood would cause an individual to become sanguine, or optimistic. An excess of phlegm would cause an individual to become phlegmatic, or tranquil. This particular theory greatly impacted medicine and philosophy for approximately 2000 years until the end of the 1600s when better scientific methods became available. So great was the impact that a classification of personality traits and types exist today.

Hippocrates, being familiar with the ideas of Pythagoras, incorporated the "four seasons of man" into the first representation of the differences among individuals' dispositions (Sigerist, 1961). Since Pythagoras was concerned with specific seasons of the year, Sigerist (1961) stated that Hippocrates' humors:

> are always present in man just as the qualities of hot, cold, dry, and moist are always present in nature, but the blend is not always the same, and this explains the different dispositions of man toward diseases according to the seasons of the year (p. 322).

Later, William Sheldon developed a typology of personality utilizing Hippocrates' concepts that classified personality into three body types: endomorphic, mesomorphic, and ectomorphic. A link was described showing the relevance of Greek influence on the modern conceptualization of personality.

Sigmund Freud

A number of personality theories have been presented since the Greeks provided the first written description of a structure of personality. In the psychoanalytic tradition,

perhaps the most well-known theorist is Sigmund Freud. The Psychoanalytic Theory portrays personality as primarily a product of an individual's sexual drive, or libido (Westen, Gabbard, & Ortigo, 2008). Freud hypothesized that individuals develop through a series of stages as they age: oral, anal, phallic, latency, and genital. These psychosexual stages represent a psychological as well as a biological evolution of these libidinal energies. Within these well-known stages are complex critical conflicts, such as the Oedipal and Electra complexes, that must be resolved or the individual would become fixated (Westen et al., 2008). Depending upon the resolution, a personality trait or demeanor is established. For example, if a child within the anal stage is toilet-trained in a strict manner, he or she may become anal retentive. According to Freud's theory, this causes traits such as obsessiveness and anxiety to be expressed (Luborsky, O'Reilly-Landry, & Arlow, 2008). Although this theory has little empirical support, it was among the first to apply a structure to the development of personality.

Karen Horney

Like Freud, Karen Horney believed that personality structural development is heavily influenced by childhood experiences, unconscious processes, and defense mechanisms (Ryckman, 1993). However, she strongly opposed Freud's concepts of Oedipal and Electra complexes and that the development of personality was primarily sexual in nature. In essence, Horney opposed the Freudian viewpoint that women were inferior creatures (Ryckman, 1993). Horney also was known for her research concerning neurotic personalities and the family dynamics that were responsible for their development. Horney hypothesized that individuals developed neurotic personality characteristics through an anxiety-ladened childhood (Westkott, 1986). She concluded

that there were three ways in which these individuals adapted to the world: moving toward people, moving against people, and moving away from people. In moving toward people, adult individuals develop dependent personality characteristics that are derived from significant levels of anxiety and helplessness experienced during childhood. Those individuals that move against people tend to develop hostile, demanding, and selfish personality characteristics. In the final method, moving away from people, individuals develop an introverted personality style that is characterized by extreme indifference toward others and social isolation (Horney, 1991).

Much of Horney's theory of neurotic personalities is similar to those concepts presented by Adler in that she theorized that neuroses developed from a split in an individual's sense of self (Westen et al., 2008). According to Horney (1991), the sense of self is the core of an individual. When a healthy sense of self exists, this promotes self-realization and recognition of potentials. However, in neurotic individuals, this is split into a despised self and an ideal self, of which the disparity causes the development of neuroses (Horney, 1991). In short, due to anxiety present in the family during childhood, these neurotic personality characteristics develop and, in turn, behaviors emerge that enable these individuals to adapt to the world around them.

Jeffrey Young

Another interesting theory of personality has been presented by Jeffrey Young (2003a) utilizing a cognitive perspective. Young developed Schema Therapy in order to treat maladaptive core beliefs that he felt were not adequately addressed through traditional cognitive therapy (Young, 2003a). He defined schemas as "extremely stable and enduring patterns comprised of memories, bodily sensations, emotions, and

cognitions" (Young, 2003b, para. 2). In this regard, schemas are fundamental constructs that are similar to in many ways to qualities of personality. Young even explained that schemas develop through a combination of childhood experiences and innate temperament (Young, 2003a).

Based on his research, Young (2003c) identified 18 maladaptive schemas that were grouped into five broad domains. Again, this is somewhat similar in structure to many personality models. The first domain of Disconnection and Rejection contains the schemas of abandonment/instability, mistrust/abuse, emotional deprivation, defectiveness/shame, and social isolation/alienation. The next domain of Impaired Autonomy and Performance contains the schemas of dependence/incompetence, vulnerability to harm or illness, enmeshment/undeveloped self, and failure. Next, the domain of Impaired Limits contains the schemas of entitlement/grandiosity and insufficient self-control/self-discipline. The next domain of Other-Directedness contains the schemas of subjugation, self-sacrifice, and approval-seeking/recognition-seeking. The final domain of Overvigilance and Inhibition contains the schemas of negativity/pessimism, emotional inhibition, unrelenting standards/hypercriticalness, and punitiveness. Since these schemas are considered lifelong and relatively stable, as are personality traits, they bear a striking resemblance to factors and traits within other personality models, such as the FFM, the HEXACO model, and others (Ashton et al., 2004; Digman & Takemoto-Chock, 1981; Dyce & O'Connor, 1989).

Lexical Theories

Of importance in the scope of this study are the personality theories that utilize a lexical derivation because these approaches are able to encompass the dimensional

orientation that includes personality traits. To that end, an analysis of personality disorders, specifically psychopathy, was conducted through the lens of a lexical or empirical approach due to the lexical approach's ability to describe personality traits of individuals. In their review of the lexical approach to personality research, John, Angleitner, and Ostendorf (1988) stated that "those individual differences that are most salient and socially relevant in people's lives will eventually become encoded into their language" (p. 174). This statement embodies the rationale for a scientific taxonomy of personality. According to researchers utilizing this approach, language provides a natural source of personality traits (Allport & Odbert, 1936; John et al., 1988). In the Merriam-Webster Collegiate Dictionary (2004), taxonomy is the "study of the general principles of scientific classification." The lexical approach attempts to use language to classify or provide a taxonomy of variables of personality. Therefore, the study of vocabulary in the natural language might reveal a set of specific words that are representative of personality traits.

However, given the number of words in a particular language, early research was not as precise as more current inquiries due to a number of limitations. In their formative study of personality terms within the English language, Allport and Odbert (1936) identified a large number of terms that could be used to describe personality variables. The sheer number of words that could be used to describe personality was almost overwhelming. They stated that this method of study would keep psychologists "at work for a life time" (Allport & Odbert, 1936, p. vi). Allport and Odbert catalogued these traits over a thirty-year period. Fortunately, as lexical studies evolved, better statistical methods

and more powerful computers have aided the ability to isolate personality factors within natural language.

Other limitations that have been described in the lexical approach are in the methodology utilized to evaluate personality variables within the language structure. Also, language differences in describing personality tend to differ from culture to culture and language terms are often vaguely defined (John et al., 1988). For example, in addressing the methodology used to determine the importance of a particular term judged to be relevant to personality, Cattell (1943) weighted those terms that were of more scientific interest rather than utilizing the socio-cultural standards within the language itself. In other words, he as well as other researchers determined the importance of personality terms based on scientific relevance rather than their cultural importance within its source language (John et al., 1988).

Additionally, the lexical method does not address the differences of personality terms between languages, not to mention the fact that words tend to change in relevance and meaning over time within the same language (John, Goldberg, & Angleitner, 1984). Of late, due to increased emphasis on the need for theories addressing cultural bias, more cross-cultural research is being conducted in order to examine the "generalizability of their taxonomies" (John et al., 1988, p. 175). An illustration of this may be seen in the differing meanings of the term "cheeky" in the English language. While this term means an individual is "insolently bold" (Merriam-Webster, 2004) in England, it does not carry a similar connotation in the United States.

Lexical taxonomy has difficulty in providing meaning to less well-defined terms within language. Often, personality terms are not precise enough, or they carry vague

impressions of personality traits. These difficulties have been present for a number of years in personality research (John et al., 1988). An example of this may be seen in Allport's explanation of the term "aggressive." He described a hypothetical circumstance where two individuals who were described as being aggressive could have significant differences even in that particular trait (Allport, 1961).

Klages and Baumgarten. Lexical taxonomy theories began with the works of Klages in 1926 and later in 1932, Baumgarten in 1933, and Allport and Odbert in 1936. These were among the first psychologists to believe that natural language could provide a source of personality attributes for a scientific taxonomy (John, Naumann, & Soto, 2008). Klages presented a rationale for the examination of personality based on natural language (John et al., 1988). He, working from the ideas of Sir Francis Galton, indicated that the study of language would increase our knowledge of personality. Based on Klages' assumptions, Baumgarten constructed one of the first lists of personality-descriptive terms in 1933 (John et al., 1988). However, she constructed this list based on her own opinions rather than utilizing an empirical method and did not proceed to classify them further.

Allport and Odbert. Later, Allport and Odbert (1936) constructed a much more comprehensive list of personality terms from a popular international dictionary. Beginning with approximately 550,000 terms, they reduced this list to almost 18,000 personality-descriptive terms. They further divided these 18,000 terms into four broad categories: personality traits, temporary states, highly evaluative states, and physical characteristics and other terms of doubtful relevance to personality (John et al., 1988). Other researchers have described these categories in different ways, but have consistently

identified separate groups. However, the boundaries of these categories are somewhat unclear and have a tendency to overlap (John et al., 2008). This overlap has led to a great deal of consternation and contention between researchers regarding the actual factor structure of personality. This could also explain why there are numerous personality theories, each with a different factor structure.

Raymond Cattell. While Allport and Odbert's (1936) lexical classification provided an initial structure for the personality terms, their system was of little use for the study of personality traits (John et al., 1988). In order to construct a usable personality taxonomy, Raymond Cattell (1943) analyzed the lexical classification provided by Allport and Odbert's previous studies. Cattell condensed the list of 18,000 terms by focusing his efforts on the 4,500 terms within the trait category (John et al., 1988). Then he utilized simple semantic and empirical clustering techniques available during that time to reduce further the terms to 35 personality variables. Modern statistical techniques were not available due to a lack of access to computers or modern computing power; therefore, a factor analysis of the large group of terms was not possible (Ashton & Lee, 2007). Cattell was able to reduce the number of terms to 35 variables and perform a simple, primitive factor analysis. Using this factor analysis, he identified 12 factors that later became part of his 16 Personality Factor Questionnaire (16PF; John et al., 2008). Other researchers have attempted to replicate Cattell's findings without success. Digman and Takemoto-Chock (1981) commented about Cattell's research that his "original model, based upon the unfortunate clerical errors noted here, cannot have been correct" (p. 168).

Cattell's work, however error-ridden, provided an impetus for further personality trait research (Pennington, 2003). Several other researchers expanded lexical taxonomy to

construct additional personality structures. Fiske, in 1949, developed descriptions of 22 of Cattell's 35 initial variables (John et al., 1988); Tupes and Christal, in 1961, discovered five relatively strong factors in their studies; and Norman, in 1963, developed a taxonomy based on the current dictionary at the time, using more precise and exhaustive methodology (John et al., 1988). It could be said that the research into the FFM personality structure gained its inspiration from these studies.

Hans Eysenck. Another pioneer in the field of personality study, Hans Eysenck, conducted a large-scale factor analysis which led to his three factor theory describing the factors of Neuroticism versus Emotional Stability, Extraversion versus Introversion, and Psychoticism versus Super-Ego Control (Eysenck, 1990). He described personality structure as having four levels. At the first level, specific responses that were not particularly characteristic of the individual were present. At the second level, habitual responses were present. These constituted behaviors that tend to recur under similar circumstances. Furthermore, this was the lowest level that provided evidence of an organizational structure of personality. At the third level, specific traits were evident. These were organizations of habitual responses. At the final and highest level, a general type of personality such as Extraversion existed. Initially, Eysenck concluded that only two dimensions of personality, specifically Neuroticism versus Emotional Stability and Extraversion versus Introversion, were evident, but later he amended his theory to include the concept of Psychoticism (Eysenck, 1998). However, his definition of psychoticism tends to characterize the level of ego strength and creativity as well as insensitivity to others, hostility, and cruelty. Furthermore, Zuckerman (1991) felt that because Eysenck's Psychoticism scale correlated highly with measures of psychopathy and prisoners and

delinquents tended to score highly on this scale, it should have been labeled "psychopathy" instead of Psychoticism. Eysenck's theory would be used extensively in most other personality trait theoretical orientations (Clark, 2007; Costa & McCrae, 1995; John et al., 2008).

5-Dimensional Personality Theory. Later Van Kampen devised a five-factor theory called the 5-Dimensional Personality Theory (5DPT), which is based on Eysenck's three-factor theory (Coolidge, Segal, Cahill, & Archuleta, 2008). Because the 5DPT is theoretically and not empirically derived, Coolidge and colleagues felt that it would have a "greater application to abnormal domains of personality than the popular 5-factor model of Costa and McCrae" (p. 1333). Van Kampen's (2000) impetus for developing this theory was in an attempt to provide a model that would account for the core characteristics involved in abnormal personality. Initially, he described the four factors of Insensitivity, Extraversion, Neuroticism, and Orderliness (Van Kampen, 2000). Later he would add Absorption as a fifth dimension (Coolidge et al., 2008). However, because few clinical studies have been conducted utilizing this theory, its viability as a theory of personality is unclear.

The Five-Factor Model. It is necessary to describe how early lexical research was conducted in order to gain a clear understanding of how the Five Factor Model (FFM) and later, the HEXACO, were developed. It is clear that lexically derived personality models do possess limitations; however, most of these issues are being addressed in modern research. Primarily, the issue concerning cultural differences among similar terms is a singular difference between the HEXACO and the FFM. While the FFM has been researched in other countries, it has always used terms that have been

imported from the model developers' language (Ashton & Lee, 2007). The HEXACO framework may be able to provide a much more culturally viable alternative to the FFM due to its development from seven different languages (Lee & Ashton, 2004).

The development of the FFM has not been credited to any single researcher or institution. Rather, numerous studies developed five-factor structures independently (John et al., 2008). When developing his list of 22 personality variables from Cattell's 35 factors a few years later, Fiske (1949) discovered a five-factor structure that was similar to the current FFM. Tupes and Christal (1961), Norman (1963), and Digman and Takemoto-Chock (1981), among a few, have replicated a five-factor structure using Cattell's 35 factors.

Currently, the most commonly utilized structure of personality is FFM of personality. John and colleagues (2008) reported that well over 1,500 studies conducted between 2005 and 2009 utilized the FFM. Notably, Costa and McCrae's NEO Personality Inventory, currently in its revised edition (NEO-PI-R; Costa & McCrae, 1992), is perhaps the most utilized instrument that operationalizes the five factors of personality. Although some of the factor domains possess different names, the most commonly accepted are: Neuroticism, Extraversion, Conscientiousness, Agreeableness, and Openness to Experience (Costa & McRae, 1992). These broad domains represent a hierarchy of specific personality facets that were produced using lexical methodology. It is generally agreed that Neuroticism represents those traits associated with anger, hostility, depression, impulsive behavior, vulnerability, and self-consciousness. Extraversion represents those traits associated with warmth, gregariousness, assertiveness, activity level, positive emotions, and excitement seeking. Conscientiousness represents those

traits associated with orderliness, dutifulness, achievement striving, self-discipline, and deliberate action. Agreeableness represents those traits associated with trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness. Openness to Experience represents those traits associated with fantasy, aesthetics, feelings, actions, ideas, and values (Costa & McCrae, 1995).

Specifically, in the FFM domain of Neuroticism, there are six trait-level facets. Of the five factors within the FFM, Neuroticism is labeled on the negative pole, while the other domains are positive. The names tend to vary depending upon the researcher; however, anxiousness, angry-hostility, trait depression, self-consciousness, impulsiveness, and vulnerability appear to be the most commonly accepted (Costa & McCrae, 1995). Neuroticism's polar opposite is considered to be emotional stability and is characterized by a calm and confident disposition. Notably, the specific traits have polar opposites as well. These are typically defined as calmness, even-temperedness, optimism, shamelessness, restraint, and fearlessness (Widiger et al., 2002). Within the domain of Extraversion, there are six trait-level facets as well. These are warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions (Costa & McCrae, 1995). Extraversion's polar opposite is obviously introversion. Facets of introversion are typically described as indifference, withdrawal, unassuming[ness], lethargic[ness], cautiousness, and anhedonic (Widiger et al., 2002). The six facets within the domain of Conscientiousness are competence, order, dutifulness, achievement-striving, self-discipline, and deliberation (Costa & McCrae, 1995). The polar opposite of Conscientiousness is considered to be undependability. This domain is characterized by negligence, disorganized[ness], undependable[ness], aimlessness, hedonistic, and

carelessness (Widiger et al., 2002). In the Agreeableness domain, the six facets are trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness (Costa & McCrae, 1995). The polar opposite of Agreeableness is antagonism. This domain is characterized by skepticism, manipulative[ness], selfishness, oppositional[ness], arrogance, and callousness (Widiger et al., 2002). Within the Openness to Experience domain, the six facets are fantasy, aesthetic, feelings, actions, ideas, and values (Costa & McCrae, 1995). The polar opposite of Openness to Experience is closed[ness] to experience and is characterized by practicality, unaesthetic, insensitiveness, routineness, pragmatic[ness], and dogmatic[ness] (Widiger et al., 2002).

The HEXACO model. Facets cause the most debate regarding the specific factor structure of personality. This is due to cultural language and individual interpretation differences (Lee, Ogunfowora, & Ashton, 2005). These differences provided the impetus for the development of a personality structure, such as the HEXACO developed by Ashton and Lee (2007), that would accommodate the cultural differences as well as personality constructs that could not be predicted by a five-factor structure. They indicated that their rationale for developing their six-factor structure was that other lexical studies conducted using other languages and cultures, rather than just English, yielded structures possessing more than five factors. The HEXACO model may provide a theoretical framework that could predict personality phenomena not addressed by the FFM and that it could explain important personality constructs that are beyond the capacity of the FFM. Furthermore, Ashton and Lee (2007) explained that, although the FFM has been examined in other countries, there is no evidence to support the notion that it is the "optimal cross-culturally replicated representation of personality structure" (p.

151). Additionally, in a study conducted by De Raad and Kokkonen (2000), they concluded that the FFM was far from being the definitive model of personality structure. Ashton and Lee felt that it was necessary to derive factor structures from the indigenous language of the culture in order to better represent its particular population.

Specifically, the FFM has failed to yield a consistent factor structure in numerous languages (Ashton & Lee, 2007). In Italian, Hungarian, Greek, and Filipino languages, either additional factors have emerged or specific domains with the FFM have failed to appear (Church, Reyes, Katigbak, & Grimm, 1997; Di Blas & Forzi, 1998; Saucier, Georgiades, Tsaousis, & Goldberg, 2005; Szirmak & De Raad, 1994). However, it is notable that the English language consistently displayed a five-factor structure (Costa & McCrae, 1995). Despite the limitations present in the FFM, the HEXACO was able to address these particular issues (Ashton & Lee, 2007). For example, in the lexical studies conducted in the Italian and Hungarian languages, the researchers found that these respective languages revealed a five-factor solution and mapped "easily onto the first four [factors] of the FFM" (Ashton et al., 2004, p. 357). The fifth factor related more to terms that would be interpreted as trustworthiness (Di Blaz & Forzi, 1998; Szirmak & De Raad, 1994). In their 2004 study of the Dutch, French, German, Hungarian, Italian, Korean, and Polish languages, Ashton and his fellow researchers (2004) were able demonstrate how a six-factor solution could accommodate the variances found in the FFM.

The HEXACO is defined by six domains instead of five. These domains are Honesty-humility, Emotionality, Extraversion, Agreeableness versus anger, Conscientiousness, and Openness to Experience (Ashton & Lee, 2007). The HEXACO contains more similarities with the FFM than differences. One difference is that the

HEXACO does not contain a domain of Neuroticism. The facets within this particular domain are divided between Emotionality and Agreeableness versus Anger. Additionally, the domain of Openness to Experience within the HEXACO does not include characteristics associated with intellectual ability that exist within the corresponding FFM domain (Ashton & Lee, 2007). Other differences between the HEXACO and the five factor personality models are evident in their labeling and placement of facets within the respective domains.

The HEXACO model provides a viable alternative to a five-factor structure: it is able to address many of the limitations that the FFM could not. Specifically, Butcher and Rouse (1996) contended that a five-factor model is ineffective in describing personality disorders due to a lack of affective-descriptive terms. Furthermore, Coolidge and colleagues (1994) and Costa and McCrae (1990) suggested that a sixth factor may better capture the clinical picture of personality disorder. Not only is the HEXACO able to address cultural and interpretive differences between respective languages, it is able to capture personality-descriptive terms that the FFM was unable to encompass efficiently (Ashton et al. 2004).

For the current study, the facets within each domain of the HEXACO, as well as their mirror opposites, are important to conceptualize. There are four facets within the Honesty-Humility domain that reflect the positive poles of these attributes: Sincerity, Fairness, Greed-Avoidance, and Modesty. Lee and Ashton (2004) considered the domain of Honesty-Humility "one of the most important characteristics of the HEXACO model" (p. 332) and it provides much of the distinguishing criteria, based on the DSM-5 alternative criteria, for the diagnosis of APD and psychopathy. The negative pole of the

Honesty-Humility domain may be conceptualized as the capacity to be disingenuous in interpersonal relationships and is characterized by the negative polar facets of dishonest[ness], unjust[ness], greediness, and boastfulness (Ashton & Lee, 2007). The domain of Emotionality is defined by the four traits of fearfulness, anxiety, dependence, and sentimentality. The polar opposite of Emotionality could be considered a lack of emotions and is characterized by bravery and toughness (Lee & Ashton, 2004). Emotionality's facets are described by toughness, independence, self-assuredness, and stability (emotional). The domain of Extraversion is similar to its FFM counterpart and is defined by the four traits of expressiveness, social boldness, sociability, and liveliness. Conceptually, its polar opposite is introversion and is characterized by shyness, passivity, withdrawal, and quietness (Ashton & Lee, 2007). The domain of Agreeableness is somewhat different from the FFM variant in that it includes characteristics of tempermentalness and irritability. This domain is defined by the traits of forgiveness, gentleness, flexibility, and patience. The polar opposite of Agreeableness is Anger and is characterized by irritability, stubbornness, choleric, and quarrelsome[ness] (Ashton & Lee, 2007). The domain of Conscientiousness within the HEXACO is consistent with the FFM description in that it is characterized by organization, diligence, perfectionism, and prudence. Conscientiousness' polar opposite is characterized by irresponsibility and is defined by traits such as negligence, laziness, recklessness, and impulsivity (Ashton & Lee, 2007). The final domain of Openness to Experience differs slightly in that it does not include content representing what is conceptualized as products of fluid intelligence, rather it describes intellectual imagination (Lee & Ashton, 2004). The four traits within this domain are aesthetic appreciation, inquisitiveness, creativity, and unconventionality.

The opposite of this domain is Closed[ness] to Experience and could be considered to be characterized by shallowness, uninspiring, unimaginativeness, and conventionalness (Ashton & Lee, 2007). The traits and domains of the FFM and HEXACO models are listed in Table 1.

Table 1

Traits and Domains of the Five-Factor and HEXACO Model

Five-Factor Model		HEXACO Model	
Neuroticism	Anxiousness, Angry Hostility, Depressiveness, Self-Consciousness, Impulsivity, Vulnerability	Honesty-Humility	Sincerity, Fairness, Greed Avoidance, Modesty
Extraversion	Warmth, Gregariousness, Assertiveness, Activity, Excitement-Seeking, Positive Emotions	Emotionality	Fearfulness, Anxiety, Dependence, Sentimentality
Openness to Experience	Fantasy, Aesthetic, Feelings, Actions, Ideas, Values	Extraversion	Expressiveness, Social Boldness, Sociability, Liveliness
Conscientiousness	Trust, Straightforwardness, Altruism, Compliance, Modesty, Tender-Mindedness	Agreeableness	Forgiveness, Gentleness, Flexibility, Patience
Agreeableness	Competence, Order, Dutifulness, Achievement-Striving, Self-Discipline, Deliberation	Conscientiousness	Organization, Diligence, Perfectionism, Prudence
		Openness to Experience	Aesthetic Appreciation, Inquisitiveness, Creativity, Unconventionality

Diagnosis of Personality Disorders

When reviewing the history of personality theories, it is clear how they have evolved, and continue to evolve, through the years. Equally as clear is the slow emergence of a dimensional classification system for the diagnosis of personality disorders, rather than the categorical system utilized currently. Both systems possess sound empirical support and have been the subject of a great deal of debate through the years. It is clear, however; that a dimensional classification system is superior to a categorical system on many levels.

Early Diagnostic Systems

In order to conceptualize the two diagnostic approaches, it is first necessary to understand the roots of personality disorder diagnosis. In 1918, the American Medico-Psychological Association and the National Committee for Mental Hygiene published a classification of diseases called the Statistical Manual for the Use of Institutions for the Insane (Grob, 1991). However, it was of limited use and not widely accepted by physicians of the day due to its rigid and narrow classification systems (Grob, 1991; Widiger, 2001). Of the 22 categories presented within the manual, two categories represented psychotic disorders, while the remaining described mental disorders with an organic cause.

Prior to the publication of the manual, most institutions had adopted their own method of diagnosing mental disorders, thereby creating a great deal of discrepancy and confusion. Furthermore, most physicians felt that it was impossible and impractical to classify mental disorders and such a classification would not impact treatment determination (Grob, 1991). The prevailing opinion was that treatment was unique to

individuals based on their presentation. Even the U. S. Census Bureau had adopted its own nomenclature system due to their increasing interest in tracking the mentally ill. The Statistical Manual was published in ten different editions between 1918 and 1942. The primary utility of the Statistical Manual was in establishing a common language between professionals that would ease the gathering of data (Grob, 1991).

The DSM-I

Other attempts to create a unified method of classification met with similar success. An attempt to integrate a manual within a commonly utilized medical diagnostic text was wholly disregarded as inadequate. Even during WWII, the military had adopted its own system of classifying mental disorders (Grob, 1991). It was not until the end of WWII that the psychological community finally came together to discuss and develop a unified set of classifications that could be universally accepted. In 1952, the first edition of the Diagnostic and Statistical Manual: Mental Disorders (DSM-I) was published by the American Psychiatric Association (APA). The DSM-I divided mental disorders into three categories: (a) disorders that were primarily a result of organic brain dysfunction, (b) those that were "psychogenic" (p. 3) or psychological in origin, and (c) mental deficiencies (APA, 1952). Examples of disorders within the brain dysfunction disorder category were disorders due to infection, drugs, and trauma. The psychological disorder category included disorders such as psychoses, anxiety, depression, phobias, and personality disorders. The mental deficiency category described different levels of mental retardation.

Relevant to personality, the DSM-I described four broad personality disorder categories. These included: (a) personality pattern disturbance, (b) personality trait

disturbance, (c) sociopathic personality disturbance, and (d) special symptom reactions. These categories were further divided into specific personality disorders. These were the inadequate personality, schizoid personality, cyclothymic personality, paranoid personality, emotionally unstable personality, passive-aggressive personality, compulsive personality, antisocial reaction, dissocial reaction, sexual deviation, addiction to drugs or alcohol, learning disturbance, speech disturbance, enuresis, and somnambulism.

The DSM-I had several advantages over its predecessors. It was developed and distributed for discussion to the APA members prior to its publication. This was beneficial due to a consensus developed among professions pertaining to the diagnosis of disorders (Widiger, 2001). Also, it included many diagnoses of relative significance to a large number of clinicians. Furthermore, it provided an informative description, although vague, of each diagnosis that facilitated greater understanding and conceptualization of the different disorders (Widiger, 2001).

However beneficial the DSM-I was, there were still numerous criticisms. A number of mental health professionals disputed the validity of the manual, stating that its greatest problem resulted from disagreements regarding severity of symptoms (Grob, 1991). Based on symptom interpretation, clinicians could easily reach different diagnoses when using the DSM-I. In essence, the basis of the DSM-I diagnoses was theoretical rather than empirical (Widiger, 2001). Also, because the descriptions of the disorders were relatively vague and written by a small group of academicians, there were a number of disagreements concerning diagnoses. Additionally, information concerning these disorders was not gathered using empirical evidence; rather it was determined through the expert opinion of the day. Differing opinions as to the symptoms of mental disorders

tended to vary between clinicians and this difference further exacerbated the disagreement over diagnoses. These fundamental disagreements led to the next iteration of the DSM.

The DSM-II

In 1968, the APA published the second edition of the DSM. Significant to the diagnosis of personality disorders, the DSM-II removed the substance dependence and deviant sexual behaviors that are common traits within some personality disorders, but not judged to be distinctive personality disorders alone. Also, the passive-dependent personality disorder was removed while explosive, hysterical, and asthenic personality disorders were added. However, because this edition was similar in respect to the DSM-I in lacking empirical support, it fueled the same criticisms that were raised concerning the earlier edition (Widiger, 2001).

The DSM-III

In 1980, the third edition of the DSM was published and shortly after, in 1987, a revision to the DSM-III was released. Similarly, in regard to personality, several disorders were removed and several added. This was the first edition of the DSM that was designed to be compatible with the World Health Organization's (WHO) ninth edition of the International Classification of Diseases (ICD-9; Widiger, 2001). Even though field trials were conducted prior to publication of the DSM-III and its revision, it still lacked empirical evidence supporting the diagnostic criteria it described. It is notable, however; that the DSM-III was the first edition to incorporate a multiaxial diagnostic method. There were five axes: Axis I included clinical disorders such as depression and anxiety, Axis II included personality disorders and mental retardation, Axis III was for reporting

medical conditions, Axis IV was for reporting environmental issues, and Axis V was for reporting a general level of functioning via a scale that was provided. The axial format sparked a new series of debates concerning which diagnosis should be attributed to which axis. This debate continues to this date in consideration of the significant level of comorbidity and overlap of symptoms between Axis I and Axis II disorders (Clark, 2007; Eaton, South, & Krueger, 2010).

The DSM-IV

In 1994, the fourth edition of the DSM was published, followed a short time later, in 2000, by a text revision. This was the first edition to take full advantage of empirical data in justifying the diagnostic criteria it described (Widiger, 2001). The DSM-IV included major revisions to the personality disorder criteria, of which many were eliminated or revised. Widiger (1993) reported that only 10 of the personality disorders from the DSM-III-R were left unchanged. It also continued the tradition of the multiaxial diagnostic reporting format, which was one positive aspect established by the DSM-III. The DSM-IV and the text revision version retained another significant feature: the "categorical classification" method used to determine diagnoses (APA, 2000, p. xxxi; Livesley, 1998; O'Connor, 2005; Reynolds & Clark, 2001; Widiger & Samuel, 2005).

Categories Versus Dimensions

It appears that the debate concerning a categorical versus a dimensional diagnostic model has become more vigorous as of late. Undoubtedly, this is due to the recently released DSM-5. Among the proponents of a dimensional diagnostic system, the most outspoken is Dr. Thomas Widiger. For approximately the past 20 years, he has presented logical and emphatic arguments detailing the necessity for the adoption of a

dimensional approach in diagnosing personality disorders. However, it is difficult to overcome the advantages offered by a categorical system.

A categorical diagnostic system, by the definition offered in the DSM-IV-TR, is "a categorical system that divides mental disorders into types based on criteria sets with defining features" (APA, 2000, p. xxxi). The categorical system provides clinicians with a few significant advantages. It enables clinicians to produce a diagnosis that is relatively easy to determine, derived from a set of pre-established criteria, and utilizes a profession-wide similarity in language (Stone, 2002). However, this system can be seen to have significant disadvantages as well. These disadvantages can cause the most consternation and provide much of the evidence supporting a dimensional approach (Clark, 2007; Widiger & Simonsen, 2005). A categorical approach is narrow in that it rigidly defines a set of criteria necessary for a diagnosis (Stone, 2002). Additionally, because of this narrow approach, it does not provide for the complete description of an individual because it attempts to describe all people. This incomplete description is an especially important issue when considering personality.

Since the FFM is the most widely used theoretical model in describing personality, it is a particularly useful example in illustrating how the narrowness of a categorical model impacts diagnosis of personality disorders (Clark, 2007; Miller et al., 2001). As personality is understood, an individual possesses varying levels of a number of traits that are demonstrated by their behaviors across situations. Therefore, a typical personality profile of an individual reveals levels in the traits contained in Neuroticism, Extraversion, Openness to Experience, Conscientiousness, and Agreeableness. These traits exist on a continuum, or a dimension, so that individuals possess more or less of a

trait that is distinguishable from traits in other individuals. This is the heart of the dimensional argument.

The notion that personality disorders can be described by levels of personality traits has been gaining steady empirical support (Cloninger et al., 1999; Dyce & O'Connor, 1998; Miller et al., 2001). One example of this may be seen in the diagnosis of antisocial personality disorder (APD) and psychopathy, which is the focus of the current study. This diagnosis has been compared with a number of personality assessment models, such as those proposed by Livesley and Jackson (2002) and Clark (1993a) that operate using a dimensional model; reliable profiles have emerged (Cloninger & Svrakic, 1994; Lee, Ashton, & Shin, 2005; Livesley, 1998; Reynolds & Clark, 2001). The existence of extreme variants of personality disorders (Miller et al., 2001; Morey et al., 2000), such as psychopathy in relation to APD, provides evidence that personality disorders do fall along a continuum and would benefit diagnostically from a dimensional perspective. Therefore, while there is a great deal of literature supporting a dimensional approach, it highlights the critical disadvantages of a categorical approach as well.

Dimensional Personality Assessment Models

There are a number of assessment models that provide empirical evidence in support of a dimensional model. Specifically, Livesley and Jackson's Dimensional Assessment of Personality Pathology (DAPP; 2002), as its name implies, examines a "lower- and higher-order structure...[and]...faithfully represent[s] the dimensional structure of personality disorder[s] itself" (Van Kampen, De Beurs, & Andrea, 2008, p. 116). Another example may be found in the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993b) which assesses "15 personality disorder-relevant

traits" (Reynolds & Clark, 2001, p. 201). The DAPP and the SNAP are used in the assessment of personality disorders; however; the use of instruments that measure normal personality, such as the NEO-PI-R and the HEXACO PI-R, has been gaining momentum regarding the diagnosis of personality disorders (Cloninger et al., 1999; De Vries & Van Kampen, 2010; Lee, Ashton, & Shin, 2005). The use of normal personality measures is not meant to discount the relative contributions of instruments that have been historically and commonly utilized in the assessment of personality disorders such as the Personality Assessment Inventory (PAI; Morey, 2007) and the Minnesota Multiphasic Personality Inventory - Second Edition (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kreammer, 1989). These instruments assess characteristics of personality disorder rather than the traits or dimensions of normal personality.

Advantages and Disadvantages of a Dimensional Approach

As has been discussed, a significant advantage of a dimensional diagnostic approach over a categorical approach is its inclusiveness and flexibility (Schroeder, Wormworth, & Livesley, 2002; Widiger, Trull, Clarkin, Sanderson, & Costa, 2002). A dimensional approach would enable clinicians to fully describe the personality functioning of individuals in treatment or involved in assessment. However, there are possible disadvantages of a dimensional system. One such disadvantage may be found in its unwieldiness. While a dimensional approach would be a dramatic change over what is currently in use (Pincus, 2011; Widiger, 2011), it would require a significant amount of time invested in retraining in order to properly integrate into current diagnostic practices. Furthermore, Widiger and Samuel state, "dimensional models of classification are inherently more complex than diagnostic categories" (Widiger & Samuel, 2005, p. 499).

Additionally, when personality disorders are assessed using some undetermined model, what do the scale levels of the traits actually mean? Of course, this raises the argument of a combination of a categorical and dimensional model being necessary (Widiger & Simonsen, 2005) in the DSM-5.

The DSM-5

The DSM-5 alternative model describes personality disorders as an "impairment in ideas and feelings regarding self and interpersonal relationships" (APA, 2013, p. 772). This is markedly different from earlier conceptualizations of personality disorders. Personality disorders have been defined by the DSM-I through IV-TR as severe, long-standing behavioral disturbances that cause significant impairment of day-to-day functioning (APA, 2000). This is an important notion to consider. Since personality traits and profiles are not mentioned, consequential behaviors decide the personality disorder. In the case of APD, specifically psychopathy, a set of behaviors comprises the criteria. The diagnosis of APD is characterized by a pattern of behaviors beginning approximately at the age of 15 years and must include three of the following conditions: (1) a failure to conform to social norms and laws, (2) lying and/or deceitfulness, (3) impulsivity, (4) irritability and aggressiveness, (5) a disregard for others' safety, (6) irresponsibility, and (7) a lack of remorse (APA, 2000).

DSM-5 alternative personality disorder criteria. The DSM-5 alternative diagnostic criterion for personality disorders utilizes a hierarchy to distinguish personality disorders so that each is a distinct condition. There is a three-step process for the diagnosis and assessment of personality disorders (APA, 2013):

1. Rate the severity of impairment of personality functioning as it impacts self and interpersonal capacities using the Levels of Personality Functioning Scale (APA, 2013).
2. Identification and assessment of severity level of the specific personality disorder among the six types which is defined by a particular set of traits.
3. Evaluate the trait facets.

This process represents what Skodol and his colleagues on the DSM-5 Task Force called a "major reconceptualization of personality psychopathology" (Skodol et al., 2011, p. 5). In fact, Skodol and colleagues proposed the removal of five of the previous personality disorders based on a "considerable [amount of] literature [that] has shown excessive co-occurrence among PDs diagnosed using the categorical system of the DSM" (Skodol et al., 2011, p. 8).

Criticisms of the new system. There are many critics of this hybridization of a categorical and dimensional diagnostic system. While Pincus (2011) expressed a level of skepticism concerning the validity of the rating system as described in the alternative personality disorder diagnostic criteria in the DSM-5, Widiger (2011) was firmly against it due to a lack of empirical support. Widiger (2011), Pincus (2011), and Pilkonis, Hallquist, Morse, and Stepp (2011) noted that there was only one study that provided empirical evidence regarding the effectiveness of such a rating system. Intuitively, without additional training in the alternative diagnostic system, there could be significant issues regarding interrater reliability. There also appeared to be a consensus that the removal of half the diagnostic criteria was unnecessary and may possibly cause

individuals to be diagnosed incorrectly or not at all (Pilkonis et al., 2011; Pincus, 2011; Widiger, 2011).

Despite Widiger's objections to the "draconian" (Widiger, 2011, p. 55) changes to the diagnosis of personality disorders, he proposed a diagnostic system in 2005 that bears some similarities to the alternative model offered in the DSM-5 (APA, 2013). Widiger and Simonsen (2005) proposed an alternative dimensional model that attempted to integrate a number of other dimensional models into a cohesive whole. Their proposed model consisted of a hierarchy that at its highest level would be "two clinical spectra of internalization and externalization" (Widiger & Simonsen, 2005, p. 113). Immediately beneath this level would be three to five broad domains of personality functioning. This stage exists within the alternative model in the DSM-5. Under the level of personality functioning would fall specific personality traits that describe the broad domain. Again, this exists in the alternative model in the DSM-5. In the final level, Widiger and Simonsen proposed that "behaviorally specific diagnostic criteria" would be used. This is actually the first level of the alternative model in the DSM-5. It attempts to identify the level of impairment to personality functioning as it is reflected in the self and interpersonal dimensions (APA, 2013). The "self" domain is characterized by self-identity and self-direction, while the "interpersonal" domain is characterized by capacity for empathy and intimacy (APA, 2013). The descriptions of these qualities point toward behaviors that impact personality functioning.

Aside from these criticisms, the diagnostic prototype of APD in the DSM-5 alternative diagnostic criteria for personality disorders is the most relevant to the current study. This prototype describes a set of personality traits that are comparable to those

found within the FFM and the HEXACO personality models. The prototype also describes the traits of manipulativeness, deceitfulness, callousness, hostility, irresponsibility, impulsivity, and risk-taking within the domains of Antagonism and Disinhibition as those that identify APD. Facet level traits of the HEXACO are the focus of this study because of their effectiveness in explaining variances unaccounted for by the FFM (Ashton et al., 2004). The HEXACO was used to provide a comparison of these traits in with psychopathy, which is considered a form of APD (Miller et al., 2001).

Psychopathy

Description and Characteristics of Psychopathy

The term *psychopath* brings to mind images of diabolical madmen and serial killers that have been glorified through the news media or characterized in television programs or movies. Descriptions of psychopaths often contain the words evil, sociopath, insane, and amoral to name a few. These impressions do not fully encompass the concept of psychopathy. A loose definition of psychopathy is that it is a constellation of interpersonal relationship deficits and emotional and behavioral dysregulation. In 1801, Philippe Pinel, an early French psychiatrist, introduced one of the earliest formal definitions of psychopathy (Hare, 1999). He recognized that there was a distinct pattern of behavior that reflected a significant lack of remorse and restraint not commonly found in people. Pinel called this condition *insanity without delirium.* In his book *Mask of Insanity*, Cleckley (1941) provided a more comprehensive profile of psychopathy by describing them in terms of 16 behavioral characteristics. A decade later Hare expanded upon Cleckley's profile (Hare & Neumann, 2008). Not only has Hare and Cleckley's conceptualization of psychopathy provided a basis for much of the current research

conducted on psychopathy, it remains the predominant model today (Ray, Poythress, Weir, & Rickelm, 2009).

Most consider psychopathy to be a subset, type, or extreme variation of antisocial personality disorder (APD; Hare 1999; Miller et al., 2001; Morey et al., 2000). While the characteristics are similar, the degree of symptomology is where the parallels end. Because psychopathy is a variation of APD, it is relevant to discuss the diagnostic criteria of this particular disorder. The diagnostic criteria within the DSM-IV-TR (APA, 2000) are largely a list of behavioral consequences driven by personality traits. This criteria defines APD as a "pervasive pattern of disregard for, and violation of, the rights of others that begins in childhood or early adolescence and continues into adulthood" (p. 701). The manner in which the criteria in the DSM-IV-TR are designed, specific personality traits make a relatively small contribution. The small contribution of personality traits seems to imply that if these behavioral indicators are not present in some form, then it is not possible to diagnose APD or psychopathy (Miller et al., 2001).

The alternative diagnostic criteria for personality disorders in the DSM-5 (APA, 2013) appear to weigh personality traits more and consider them accountable for the majority of the disorder. The new definition describes APD as "a failure to conform to lawful and ethical behavior, and an egocentric, callous lack of concern for others, accompanied by deceitfulness, irresponsibility, manipulativeness, and/or risk taking" (APA, 2013, p. 764). This edition of the DSM directs the focus of diagnosing personality disorders to the traits responsible for causing it. Psychopathy has become synonymous with criminal behavior even though behavior is merely the physical manifestation of a

personality disorder. The DSM does not account for the traits involved in influencing these behaviors.

The reasons for the many different interpretations of psychopathy may be due to the belief that it is a unitary construct. Even Hare and Neumann (2008) acknowledged that psychopathy was often misinterpreted as unidimensional. In his analysis of Cleckley's psychopathy attributes, assessed by test items, Hare and Neumann found that the 16 items were strongly related to each other; however, when considering item-level contributions, the correlation of the absence of nervousness characteristic was so small, that it implied it was not related to the total construct. Additionally, Hare and Neumann found that the characteristics referring to psychotic symptoms and suicidal ideation were represented by a small sample size indicating that their relationships to the total construct were not reliable.

Primary and Secondary Psychopathy

Many models of psychopathy incorporate the concept of primary and secondary psychopathy, although their relative definitions of primary and secondary psychopathy may differ slightly. Primary psychopathy is characterized by profound lack of fear, an inability to experience significant affects, an inability to form interpersonal attachments, and is considered generally have a biological etiology (Witt, Donnellan, & Blonigen, 2009). Secondary psychopathy is characterized by a more impulsive nature, but is able to form emotional attachments to others and experience a wider range of emotions that include anxiety and depression associated with attachment to others (Ray et al., 2009). Additionally, secondary psychopathy is believed to be caused by environmental sources. The main difference between these two categories of psychopathy is that in primary

psychopathy there is little to no ability to form significant attachments with others. Psychopathic individuals' destructiveness is not limited by their emotions, whereas in secondary psychopathy, their destructiveness is limited by their ability to form emotional attachments (Miller et al., 2001).

Antisocial Behaviors

Many incarcerated individuals are diagnosed with APD; however, not all individuals diagnosed with APD are in prison or are even criminals. Yet, it is common to judge all convicted criminals as suffering from APD. This is not so. A frightening concept to imagine is that not all individuals suffering from psychopathy are incarcerated either. It is possible for them to function normally, day to day, until some event prompts them to act in some unacceptable manner (Hare, 1999). In his book *Without Conscience: The Disturbing World of the Psychopaths Among Us*, Hare (1999) described an attorney who had been embezzling money from a client and eventually murdered her. The attorney had been reading self-help books and other social skills training materials in an attempt to control his behavior in much the same way as an individual suffering from an autism spectrum disorder would be taught. The fact that he had been able to earn a higher education degree as well as well as recognizing his deficits provides an excellent depiction of how individuals suffering from psychopathy are able to function. Newman, Wallace, Schmitt, and Arnett (1997) suggested that this is due to certain impulse control behaviors that are absent in psychopathic individuals.

Other examples appear to contradict this hypothesis. Cleckley (1941) described a case study of a psychiatrist who was diagnosed as a psychopath. He reported that the psychiatrist was able to functioning normally and was not involved in criminal behavior.

Furthermore, the psychiatrist was able to release his inhibitions on the weekends while away from his occupation. He was able to resist his urges and apply a modicum of control over their subsequent release. Widom (1977) referred to these individuals as successful psychopaths. Simply stated, they do not view life as others do (Hare, 1999).

Psychodynamic/Psychoanalytic Theories

Within psychodynamic disciplines, psychopathy is more or less characterized by a susceptibility to negative emotions (Karpman, 1949). Studies conducted by Karpman indicated that primary psychopaths are unable to experience anxiety and nervousness associated with their behaviors, while secondary psychopaths experience a predominance of negative emotions such as depression, guilt, and shame. However, his views were contradictory in light of more current research that considered a fundamental lack of remorse as a primary characteristic (Hare, 1999).

J. Reid Meloy. Meloy (2002) describes psychopathy from a psychoanalytic orientation that is quite different from other theoretical approaches. In his book *The Psychopathic Mind: Origins, Dynamics, and Treatment*, Meloy describes psychopathy as an "intrapsychic process that has both a structure and function" (p. 17). As fundamental as this seems, he observes that the two elements of structure and function are both necessary in describing psychopathic individuals. He infers that functions are described by clinical behaviors while the structure is inferred from these behaviors. This type of hindsight reasoning is typical of psychoanalysis and is reflective of Freud's approach to explaining clinical behaviors (Westen et al., 2008).

Meloy (2002) hypothesized that psychopathy is a variant of narcissistic personality disorder which drastically differs from the more commonly held belief that it

is a subset of APD. His support of this idea is through Kernberg's (1984) three levels of personality organization and that psychopathy is best described by a borderline personality organization. He described a number of characteristics of psychopathic individuals such as: reliance on aggressive interpersonal relations, absence of passive narcissistic qualities, cruel or sadistic nature, malignant ego ideal that is derived from an aggressive parental object, lack of remorse that reflects shortcomings in the superego, the existence of anal-expulsive and phallic-related themes, and paranoid ideation. In short, Meloy determined that psychopathy is the result of a failure to maintain ego boundaries, a failure to sustain sufficient reality testing, and the use of primitive defense mechanisms. Meloy also suggested that there was a biological or genetic component to psychopathy that is unique to these individuals which is supported by a number of researchers including Hare (1999) and Lilienfeld and Andrews (1996).

Conditioning Theory

Other theoretical frameworks approach psychopathy from different perspectives. Lykken (1957) proposed that psychopathic individuals possess a low level of conditioning to fearful and negative stimuli. This tends to support Cleckley's (1941) and Hare's (1999) hypothesis that primary psychopaths tend to experience lower levels of anxiety and nervousness. Subsequent studies conducted by various researchers have supported this phenomenon (Widiger & Lynam, 1998). Other theories hypothesize that psychopathy is caused by poor inhibitory controls or an inability to encode and process interpersonal events (Millon, Simonsen, & Birket-Smith, 1998; Newman et al., 1997). However, these theories do not fully capture the full personality profile of psychopathy; rather they appear to explain only portions of it.

Hervey Cleckley

Cleckley (1941) hypothesized that psychopaths are unable to understand the consequences their actions have on the feelings and beliefs of others. He wrote that psychopathic individuals suffer from a semantic disorder in which association and meaning processes were inhibited or missing altogether. This fundamental lack of empathy forms part of the clinical profile of psychopathy he devised. In a study designed to examine this phenomenon, Williamson, Harpur, and Hare (1991) determined that psychopathic individuals often mislabeled and confused affective material when asked to pair emotionally descriptive words with pictures. The cause of this particular phenomenon remains largely unknown, but its etiology is blamed on genetic/biological or environmental causes (Cleckley, 1941; Hare, 1999; Karpman, 1949; Newman et al., 1997).

Cleckley's greatest contribution to the study of psychopathy may be found in his descriptions of the attributes that characterize the psychopath. He determined that there are 16 attributes that characterize the disposition of a psychopath. These are: superficial charm, absence of delusions and other irrational thinking, absence of nervousness, unreliability, untruthfulness and insincerity, lack of remorse and shame, impulsive antisocial behaviors, poor judgment, egocentricity, inadequate emotional capacity, loss of insight, lack of interpersonal relations, uninviting behavior, suicidal threats, impersonal sexual relations, and failure to follow any life plan (Cleckley, 1941). Additionally, Cleckley was one of many researchers who hypothesized that the personality traits that compose psychopathy could not only be found in prisons, but in "society's most respected roles and settings" (Millon et al., 1998, p. 19). Hare later analyzed the attribute

profile proposed by Cleckley and advanced a more formalized structure of psychopathy during the process of developing his Psychopathy Checklist (Ray et al., 2009).

Robert Hare

Hare, in developing his theory of psychopathy, analyzed the 16 attributes of the psychopath proposed by Cleckley and found that they could be reduced into two broad domains he called Factor One and Factor Two (Ray et al., 2009; Witt, Donnellan, & Blonigen, 2009). These two domains are empirically consistent with the current concept of primary and secondary psychopathy. Factor One is associated with interpersonal and affective factors and is characterized by superficial charm/glibness, a grandiose sense of self-worth, pathological lying, manipulativeness, lack of remorse or guilt, shallow emotionality, callousness, and a failure to accept blame (Miller & Lynam, 2011; Ray et al., 2009). Factor Two is associated with socially deviant lifestyles and is characterized by a need for stimulation, a parasitic lifestyle, poor behavioral control, promiscuous sexual behavior, lack of realistic goals, impulsiveness, irresponsibility, and various criminal behaviors (Miller & Lynam, 2011; Ray et al., 2009).

Hare later amended his two-factor structure into a four-factor structure. The four-factor structure included an interpersonal factor, an affective factor, a lifestyle factor, and an antisocial factor. Glib/superficial charm, grandiose self-worth, pathological lying, and conning/manipulative characteristics defined the interpersonal domain. The affective domain was defined by a lack of remorse or guilt, a shallow affect, lack of empathy, callousness, and failure to accept responsibility for their actions. The lifestyle domain was defined by stimulation-seeking, impulsivity, irresponsibility, parasitic orientation, and a lack of realistic goals. Finally, the antisocial domain was defined by poor

behavioral controls, early behavior problems, juvenile delinquency, revocation of conditional release (from incarceration), and criminal versatility (Hare & Neumann, 2008). In short, the particular characteristics remained the same, but the domains they reflected changed. This may have been in response to additional empirical evidence that indicated the existence of additional factors other than those that could be reasonably explained by his earlier two-factor model (Hare & Neumann, 2008; Ray et al., 2009). Hare's Personality Checklist – Revised (PCL-R; Hare, 2003) is the newest iteration of the measure that operationalizes his theory (Hare & Neumann, 2008).

The Five-Factor and HEXACO Models

Because Hare's theory includes personality factors in its defining criteria, the FFM and the HEXACO model may provide an excellent source of information. The HEXACO model offers a viable, if not more effective, alternative to the FFM (Lee & Ashton, 2004). Most relevant research on the personality characteristics of psychopathic individuals has been conducted utilizing the FFM. In a study conducted by Lee, Ashton, and Shin (2005), it was found that the HEXACO, specifically the Honesty-Humility dimension, was able to detect antisocial behaviors beyond the ability of the FFM to capture. Even considering the paucity of literature concerning the HEXACO model, it is useful to draw comparisons between the ability of the FFM and the HEXACO to capture the personality profile of psychopathic individuals.

Five-Factor Model domains. Regarding the particular personality traits of psychopathic individuals, the FFM and HEXACO models can provide personality profiles that are descriptive of these individuals. Several studies have been conducted that compare the FFM to antisocial personality disorder in an attempt to build a viable

personality profile. The consensus of these studies indicates that when considering personality domains, low Conscientiousness, low Agreeableness, high Extraversion, and a mixture of high and low traits within Neuroticism are particularly effective in identifying psychopathy (Lynam, 2002; Miller et al., 2001; Widiger & Lynam, 1998).

The utility of Conscientiousness, Agreeableness, Extraversion, and Neuroticism in identifying psychopathy has been replicated in studies utilizing community, clinical, and correctional settings (Lilienfeld & Widows, 2005; Madsen, Parsons, & Grubin, 2006; Miller, Reynolds, & Pilkonis, 2004). Ruiz, Pincus, and Schinka (2008) conducted a meta-analysis of the prevailing literature concerning FFM personality traits associated with APD. They found a general consensus that in APD, the FFM domains of Agreeableness and Conscientiousness provided the most discrimination of psychopathic characteristics. They felt that these two domains "might represent lower-order factors of a higher-order disinhibition factor" (p. 15). Notably, they found that the traits of straightforwardness, compliance, altruism, and trust within the Agreeableness domain and dutifulness, self-discipline, and deliberation within the Conscientiousness domain distinguish psychopathic traits the most effectively. Tobst and colleagues (2000) confirmed that low Agreeableness and low Conscientiousness are linked to high-risk behaviors that include other risky behaviors than merely substance abuse or criminal activity.

Factor 1 and Factor 2 of the PCL-R are correlated with an "antagonistic interpersonal style (FFM Antagonism) and some degree of impulsivity/disinhibition" (Miller & Lynam, 2011, p. 2). Miller and Lynam also point out that Factor 2 is more strongly associated with the impulsivity/disinhibition characteristics usually related to

criminal behaviors. This is notable due to Hare's contention that the two factors were unrelated; however, FFM personality traits are able to provide a link.

HEXACO domains. Regarding the HEXACO, there is limited research examining its utility in detecting personality disorders, much less psychopathy. However, those that exist have revealed that the dimension of Honesty-Humility was able to provide the most discrimination (De Vries, Lee, & Ashton, 2008; De Vries & Van Kampen, 2010). De Vries and Van Kampen commented that this is most likely due to the conceptualization of the Honesty-Humility domain. Because this domain "pertain[s] to individual differences in the tendency to be interpersonally genuine, to avoid fraud and corruption, to be disinterested in status and wealth, and to be modest and unassuming" (p. 245), it is able to capture a significant amount of the characteristics that are believed to encompass psychopathy. Additionally, Lee, Ashton, and Shin (2005) determined that Honesty-Humility played a "prominent role" (p. 81) in identifying APD in a study they conducted examining workplace behavior. This is not to discount the possible impact of the domains of Conscientiousness, which is very similar to its FFM counterpart, and Agreeableness, which differs somewhat from the FFM version (Lee & Ashton, 2004).

Five-Factor Model facets. However, these studies also suggested that the facets of these domains are where the true distinction lies (Morey et al., 2000; Reynolds & Clark, 2001; Widiger & Lynam, 1998). Within the FFM domain of Conscientiousness the facets that have the most relevance to APD are a low level of deliberation, or carelessness; a low level of dutifulness, or undependability; and a low level of self-discipline, or negligence. Within the FFM domain of Agreeableness, the facets that have the most relevance to APD are a low level of modesty, or arrogance; a low level of

tender-mindedness, or callousness; a low level of compliance, or oppositional aggression; a low level of straightforwardness, or manipulativeness; and a low level of altruism, or exploitativeness. These characteristics define the majority of the traits of psychopathic individuals. Low warmth, or indifference; low positive emotions, or anhedonia; and high excitement-seeking, also characteristics of psychopathy, within the Extraversion domain assist in distinguishing APD and psychopathy. High angry-hostility within the Neuroticism domain is also an important facet to consider. There is mixed agreement concerning a high level of fantasy, a facet within the Openness to Experience domain, as well as a high level of impulsivity and a low level of self-consciousness, facets within the Neuroticism domain, as reflective of APD. Widiger and Lynam (1998) posit that the impulsivity facet better represents the inability to control impulses and urges. The prevailing viewpoint of many researchers is that impulsivity and a lack of self-consciousness is extremely characteristic of psychopathic individuals, but possibly not of APD (Hare, 1999; Miller et al., 2001; Reynolds & Clark, 2001). It is notable that the relationship between the FFM facets and characteristics of APD were rarely strong. They ranged from -.60 to .49 in one study by Miller and colleagues (2001), but De Vries & Van Kampen's (2010) study revealed more conservative correlations ranging from -.40 to .40.

HEXACO facets. HEXACO facets within the domain of Honesty-Humility provide the most impact on APD and psychopathy (De Vries et al., 2008; De Vries & Van Kampen, 2010; Lee & Ashton, 2005). The facets within Honesty-Humility are Sincerity, Fairness, Greed Avoidance, and Modesty. Low levels of these traits define the characteristics of psychopathic individuals. While researching psychopathy,

Machiavellianism, and narcissism, Lee and Ashton (2005) found that the Honesty-Humility domain within the HEXACO possessed a strong negative correlation. Furthermore, they discovered that there was only a modest negative correlation between psychopathy, Machiavellianism, and the FFM domain of Agreeableness. There was no correlation between narcissism and the FFM Agreeableness domain. In a study examining workplace delinquency and deviance in Australia, Canada, and the Netherlands; Lee, Ashton, and De Vries (2005) found that Honesty-Humility showed modest correlations with workplace theft, fraud, and sabotage. However, the Honesty-Humility domain still surpassed other HEXACO Personality Inventory domains, FFM domains represented by the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992), and Goldberg's (1999) International Personality Item Pool FFM scales. Similar facets exist within the Conscientiousness domain of the HEXACO to those found within the Conscientiousness domain of the FFM. Facets such as low diligence, or undependability; low prudence, or carelessness; and low perfectionism, or negligence; are comparable between these theoretical frameworks. The relevant facets within the Agreeableness domain of the HEXACO model are low gentleness, or callousness; and low flexibility, or oppositionality; and are similar to facets within the FFM. Low forgiveness or grudge-holding; and low patience or quick-tempered, facets within the Agreeableness dimension are also characteristic of psychopathy and must be considered as well. Those high in the social boldness facet within the domain of Extraversion in the HEXACO model, and those low in the anxiety and sentimentality facets within the Emotionality domain also define psychopathic individuals (Hare & Neumann, 2008).

Select trait comparisons between FFM and the HEXACO specifically regarding psychopathic characteristics are presented in Table 2.

Table 2

Comparison of HEXACO and Five-Factor Model Traits of Psychopathy

Five-Factor Model Traits	Psychopathic Traits
Neuroticism	high angry hostility and impulsivity, low self-consciousness
Extraversion	low warmth and positive emotions, high excitement-seeking
Conscientiousness	low competence, dutifulness, achievement-striving, self-discipline, and deliberation
Agreeableness	low straightforwardness, altruism, compliance, and tender-mindedness
HEXACO Traits	
Honesty-Humility	low Sincerity, Fairness, Greed Avoidance, and Modesty
Emotionality	low Anxiety and Sentimentality
Extraversion	high Social Boldness
Agreeableness	low Gentleness, flexibility, and forgiveness
Conscientiousness	low diligence, prudence, and perfectionism

In the alternative diagnostic criteria of the DSM-5, a prototypical personality profile of APD is offered. This prototype describes manipulativeness, deceitfulness, callousness, hostility, irresponsibility, impulsivity, and risk-taking as characteristics of APD, within the domains of antagonism and disinhibition (APA, 2013). Considering that psychopathy could be considered a much more severe form of APD, the degree of severity of these particular traits a psychopathic individual possesses would be much greater than found in APD.

FFM, HEXACO, and Hare

In analyzing the relative contributions of the FFM and the HEXACO, it would be beneficial to examine them through the lens of Hare's model of psychopathy. Hare described several attributes that characterize psychopathy: glib/superficial charm, egocentricism and grandiosity, a lack of remorse or guilt, a lack of empathy, deceitfulness and manipulativeness, shallow emotionality, impulsiveness, poor behavioral control, a need for excitement, irresponsibility, early behavior problems, and adult antisocial behavior (Hare, 1999). Personality traits from the FFM and the HEXACO appear to encompass many of the twenty characteristics described by Hare's PCL-R. The characteristic of glibness or superficial charm is comparable to lower scores in the FFM facet of self-consciousness. Widiger and Lynam (1998) concluded that most individuals have a tendency to become anxious or fearful of embarrassment at some point due to self-consciousness, however; these individuals do not seem to possess these proclivities. A study conducted by Morey and colleagues (2000) found that individuals diagnosed with APD scored relatively high in the Neuroticism domain of the NEO Five-Factor Inventory (NEO-FFI), but low in the facet of self-consciousness (Miller et al., 2001). The HEXACO factor that accounts for glibness or superficial charm is most closely associated with low levels of the facet of social boldness within the Extraversion domain, due to the qualities of low fear of embarrassment experienced by psychopathic individuals.

The grandiose sense of self-worth observed in psychopathic individuals is distinguished by low levels of the modesty facet (Widiger & Lynam, 1998). However, the modesty facet in the HEXACO, although still consistent with the FFM definition, is

found within the domain of Honesty-Humility. Lee and Ashton (2004) described modesty as an unassuming nature. Individuals who possess low levels of modesty would feel privileged and superior to others.

High levels of the excitement-seeking facet and low levels of the self-discipline facet found within the FFM (Widiger & Lynam, 1998) capture the need for stimulation observed in psychopathic individuals. Cleckley (1941) and Hare (1999) noted that the psychopath has a need for novel stimulation and lacks the capacity for self-control. Within the HEXACO model, this quality is not identified directly. Based on Lee and Ashton's (2004) definitions, it is most associated with the low levels of the facets of fearfulness and diligence. Lee and Ashton described individuals with low levels of fearfulness as tough and brave, with little fear of injury. This is a quality that is similar to a need to experience excitement. Additionally, they described individuals possessing low levels of diligence as having little self-discipline, a quality Widiger and Lynam (1998) concluded was present within psychopathic individuals.

The pathological lying characteristic is captured by low straightforwardness within the FFM, and low sincerity within the HEXACO (Widiger and Lynam, 1998). Regarding the FFM, this facet is rather self-explanatory and is the willingness to deceive others for some gain. Within the HEXACO, Lee and Ashton (1998) described an individual with low levels of sincerity as manipulative to the point of doing anything to others in order to get what they want. This is characteristic of psychopathy as it is often well-practiced and is consistent with psychopathic individuals' manipulativeness (Hare, 1999).

The manipulative quality is distinguished by low straightforwardness, low altruism, and low tender-mindedness within the FFM (Widiger and Lynam, 1998), and low sincerity, low altruism, and low gentleness within the HEXACO (Lee & Ashton, 2004). Lee and Ashton described individuals low in sincerity as willing to manipulate other to get what they want. They explained altruism in terms of "a dimension of altruistic versus antagonistic tendency, which involves both a willingness to help or provide benefits to others and an unwillingness to harm or impose costs on others" (Ashton & Lee, 2007, p. 156).

The lack of remorse or guilt is distinguished by low tender-mindedness within the FFM, and low gentleness, the inability to form close emotional attachments, and low sentimentality, a lack of concern for others, within the HEXACO (Lee & Ashton, 2004). This remorselessness or lack of guilt quality varies from stubbornness to a ruthless and callous nature (Widiger & Lynam, 1998). Hare (1999) described psychopathic individuals as feeling no guilt or shame regarding their behaviors. He indicated they often state that they have no regrets or reason to be concerned about consequences.

The shallow affect experienced by psychopathic individuals is captured by low warmth, low positive emotionality, low altruism, and low tender-mindedness within the FFM (Widiger & Lynam, 1998), and by low sentimentality, low fairness, low patience, low gentleness, and low altruism within the HEXACO model (Ashton & Lee, 2007). Low levels of these facets combined with low gentleness are consistent with descriptions of the shallow emotional capacity observed in psychopathic individuals (Hare, 1999; Lee & Ashton, 2004).

Another personality characteristic of psychopathy contained within the PCL-R is callousness. Callousness observed in psychopathic individuals is distinguished by low tender-mindedness within the FFM and low gentleness within the HEXACO. Hare (1999) commented that callousness, or lack of empathy, is closely associated with egocentricity, a lack of remorse, shallow emotions, and manipulativeness. However, due to the lack of relevant literature and empirical evidence, the facet comparisons from the HEXACO to the factors in the PCL-R are largely the result of conjecture. The comparisons between the PCL-R and relevant facets from the FFM and the HEXACO are listed in Table 3.

Table 3

Comparison of PCL-R Characteristics with FFM and HEXACO Facets

PCL-R Characteristic	FFM Facets	HEXACO Facets
Glibness/superficial charm	Low self-consciousness (N)	High social boldness (X)
Grandiose sense of self-worth	Low modesty (A)	Low modesty (H)
Need for stimulation	Low self-discipline (C), high excitement-seeking (E)	Low fearfulness (E) and diligence (C)
Pathological lying	Low straightforwardness (A)	Low sincerity (H)
Conning/manipulative	Low straightforwardness (A), altruism (A), and tender-mindedness (A)	Low sincerity (H), gentleness (A), and altruism
Lack of remorse of guilt	Low tender-mindedness (A)	Low gentleness (A) and sentimentality (E)
Shallow affect	Low warmth (E), positive emotionality (E), altruism (A), and tender-mindedness (A)	Low sentimentality (E), fairness (H), patience (A), and gentleness (A)
Callous, lack of empathy	Low tender-mindedness (A)	Low gentleness (A) and sentimentality (E)

Note. FFM: N = Neuroticism, E = Extraversion, C = Conscientiousness, A = Agreeableness. HEXACO: H = Honesty-Humility, X = Extraversion, E = Emotionality, A = Agreeableness, C = Conscientiousness

Many of the personality traits contained within the FFM and HEXACO models overlap in describing the characteristics of psychopathy as detailed by the PCL-R. However, approximately half of those characteristics are truly personality oriented, while the others are behaviors often associated with psychopathy. This is an important distinction to consider, according to many personality theorists. Psychopathy should not be defined by criminal-like behaviors as it is in the DSM-IV-TR (Lilienfeld & Andrews, 1996; Witt, Donnellan, Blonigen, Krueger, & Conger, 2009). According to Hare's theory, behaviors are an integral part of defining psychopathy, which may make his theory less than ideal in describing the determinants of the disorder.

The next eleven characteristics of psychopathy: parasitic lifestyle, poor behavioral controls, a lack of realistic goals, impulsivity, irresponsibility, juvenile delinquency, early behavioral problems, revocation of a conditional release, promiscuous sexual behaviors, multiple short-term marital relationships, and criminal versatility as defined by the PCL-R, are behavioral in nature and are not accurately represented by personality traits. Widiger and Lynam (1998) noted that PCL-R items "vary in the extent to which they refer to traits or behaviors...or broad sets of behaviors" (p. 179). However, they postulated that a number of facets within the FFM, primarily low straightforwardness, low altruism, low modesty, low tender-mindedness, low achievement-striving, low self-discipline, low competence, low dutifulness, and high angry-hostility facets could capture these eleven remaining characteristics. This notion is based on the loose definition of personality as "an individual's patterns of thought, emotions, and behavior," (Funder, 2001, p. 2) which is expressed in traits and cultural interactions (McAdams & Pals, 2006). Within the HEXACO, comparable traits that could

explain these behaviors are low sincerity, low fairness, low sentimentality, low modesty, low gentleness, low diligence, low perfectionism, low patience, and low forgiveness. The angry-hostility trait of the FFM is characterized by the Agreeableness (versus Anger) domain of the HEXACO (Ashton & Lee, 2009).

Scott Lilienfeld

In an effort to address psychopathy from a noncriminal perspective as well as focus entirely upon personality features, Lilienfeld developed a theory of psychopathy that does not depend upon behaviors as defining characteristics (Witt, Donnellan, Blonigen et al., 2009). Lilienfeld and Andrews (1996) described psychopathy as a dimensional construct in which defining traits exist on a continuum. In essence, psychopathic individuals' may suffer from varying degrees of the disorder depending upon their individual personality profiles. Lilienfeld and Andrews considered the behaviors of these individuals to be a consequence, or result, of a constellation of particular personality traits rather than as defining criteria of the disorder (Marcus, John, & Edens, 2004).

In developing their theory of psychopathy, Lilienfeld and Andrews (1996) analyzed a set of 24 attributes that characterized the disorder and were more closely associated with personality traits than would be found in other theories. Characteristics such as superficial charm, egocentricity, unreliability, untruthfulness, guiltlessness, manipulativeness, lack of anxiety, fearlessness, poor impulse control, low frustration tolerance, sensation-seeking, inability to form close attachments, lack of empathy, shallow affect, failure to learn from punishment, lack of planning, propensity to externalize blame, nonconformity, low ambition, materialism, failure to appreciate

kindness, lack of capacity for fantasy, failure to delay gratification, and hypermasculinity were qualities of psychopathy that were examined (Lilienfeld & Andrews, 1996). Lilienfeld and Andrews commented that initially only 18 attributes were examined, but subsequent research necessitated the addition of the final 6 characteristics in order to fully describe the psychopathic profile.

The *Psychopathic Personality Inventory* (PPI; Lilienfeld & Andrews, 1996) operationalizes Lilienfeld's theory of psychopathy. The *Psychopathic Personality Inventory – Revised* (PPI-R; Lilienfeld & Widows, 2005), is its most current form. It is important to mention that prior to the development of the PPI, the PCL-R was the most widely used instrument in the measurement of psychopathy. Currently, the PPI-R is one of the most widely used instruments in the study of psychopathy (Miller & Lynam, 2011). Lilienfeld and Andrews factor analyzed the list of 24 attributes and defined 8 factors or scales: Machiavellian Egocentricity, Rebellious Nonconformity, Blame Externalization, Carefree Nonplanfulness, Social Influence, Fearlessness, Stress Immunity, and Cold-heartedness. Research using this instrument has moved from examining the relationship of these factors with personality traits to utilizing two higher-order factors called Fearless Dominance (FD) and Self-Centered Impulsivity (ScI; Miller & Lynam, 2011). There is a third possible higher-order domain, Coldheartedness (C), which is independent of the FD and ScI domains (Ray et al., 2009). The FD domain is most related to those psychopathic qualities associated with sociability, immunity to stress, and excitement seeking and ScI is most related to those qualities associated with deviance (Witt, Donnellan, Blonigen, et al., 2009). Coldheartedness is most associated with callousness and a lack of empathy (Ray et al., 2009).

The PPI-R and FFM. There is a paucity of studies that researched the relationship of the eight scales of the PPI-R and specific normal personality traits; however, there are a few studies that have examined this relationship using the FD and ScI domains of the PPI-R. Witt, Donnellan, and Blonigen (2009) examined the relationship between personality traits described by the *Multidimensional Personality Questionnaire* (MPQ; Patrick, Curtin, & Tellegin, 2002) and the FD and ScI domains of the PPI-R. They determined that the FD domain was able to describe the "confidence, social dominance, and emotional stability" (p. 273) traits that were negatively associated with psychopathy and fell between the two FFM domains of Extraversion and Neuroticism. Furthermore, they found that ScI refers to self-control issues, manipulativeness, and an antagonistic interpersonal approach and fell between the two FFM domains of Conscientiousness and Agreeableness. In their meta-analysis, Marcus, Fulton, and Edens (2013) discovered that the FD factor did not accurately represent qualities of psychopathy due to its low correlations with other measures of psychopathy. Miller and Lynam (2011) found that FD appeared to be more related to psychological distress, fears, ruminations, anxiety, positive emotionality, extraversion, and excitement-seeking, but that there was little evidence that revealed what the FD domain actually represented. However, Witt, Donnellan, and Blonigen (2009) concluded that the FD domain was consistent with characteristics of psychopathy as conceptualized by Cleckley (1941).

The PPI-R and the HEXACO. Regarding the HEXACO and its ability to capture the domains of the PPI-R, current research has provided significant links. In their attempt to construct a proxy scale, Witt, Donnellan, Blonigen, and colleagues (2009)

constructed scales using items from the HEXACO that represented the FD and ScI domains from the PPI-R. They found HEXACO scales to be correlated with the corresponding PPI-R domains. They also constructed similar scales using the NEO-PI-R and MPQ that were correlated with the PPI-R.

THE MMPI-2 and PAI

Other relevant instruments that are used in the detection of psychopathic behaviors are the MMPI-2 and the PAI. Because of their significant impact, it is necessary to mention their relative contributions in the field of forensic psychology and assessment of psychopathic individuals. When considering the MMPI-2, one might consider the Psychopathic Deviate subscales to provide the most information regarding psychopathic behavior. In a study conducted by Lilienfeld (1999), he found that only Pd2, or Authority Problems, correlated with psychopathy and antisocial behavior. Only Pd3, or Social Imperturbability, correlated with psychopathic individuals' characteristic low anxiety. When considering the Personality Assessment Inventory (PAI; Morey, 2007), Douglas, Guy, Edens, Boer, and Hamilton (2007) attempted to devise a proxy scale utilizing the PCL-R (Hare, 1991). They explored the possibility that the PAI Antisocial subscales could provide significant predictive ability that would enable the detection of psychopathic individuals. Douglas and colleagues proved unsuccessful and concluded that while the PAI may offer a better alternative than the PCL-R in detecting change in psychopathic features, it was not a viable instrument in predicting psychopathy or determining relative severity of psychopathic characteristics. Otherwise, the value of the MMPI-2 and the PAI is measured in the contributions made by their respective subscales, which tend to differ among individuals.

A review of the literature revealed few studies that examined the relationship between personality trait-level characteristics and the scales of the PPI-R. While Witt, Donnellan, Blonigen, and colleagues (2009) were able to develop scales using normal personality measures, they utilized the domains FD and ScI to develop the subsequent scales. Witt, Donnellan, Bonigen and colleagues' scales revealed a significant correlation between the FD and ScI domains and the newly developed scales. The developed scales were also able to predict psychopathy as defined by the PPI-R. However, a trait-level examination would reveal the impact that personality traits have on Lilienfeld's conceptualization of psychopathy and assist in developing a personality profile based on measures of normal personality. This is aided, in no small part, by the alternative diagnostic criteria offered in the DSM-5 and the prototypical profiles of personality disorders presented therein.

Scale Development

The development of psychological scales is highly dependent on the concept of validity. Validity essentially is the extent to which a test measures what it is professed to measure (Warner, 2008). However, according to Cronbach and Meehl (1955), psychological constructs are unobservable. This necessitates techniques that measure these "hypothetical constructs in a convincing, valid way" (Smith, 2005, p.396). Cronbach and Meehl concluded that in order to attain construct validity, researchers needed to conduct numerous studies in order to strengthen the theoretical construct. Campbell and Fiske (1959) elaborated on this premise by suggesting the multitrait, multimethod matrix (MMTM), a method that examined the relationships of psychological instrument being studied with other established psychological instruments.

In 1957, Loevinger published a methodology for scale construction organized into three phases of development: a Substantive Validity Phase, a Structural Validity Phase, and an External Validity Phase. Loevinger's methodology was the first method of scale development that was based on the principles of construct validity. Loevinger concluded that "construct validity is the whole of validity from a scientific point of view" (p. 636). Within each phase is a set of theoretical or empirical methods for designing psychological instruments. Clark and Watson (1995) pointed out that statistical methods such as factor analyses and MTMM have become easier to perform. In addition, modern psychometric principles such as Item Response Theory (IRT) have become more widely accepted.

Substantive Validity Phase

Substantive validity refers to the extent to which scale items represent the theoretical construct they are supposed to measure (Loevinger, 1957). The Substantive Validity Phase encompasses the literature review through the creation of scale items. The literature review is important, for obvious reasons, and is followed by the development of a clear theoretical construct (Clark & Watson, 1995). Items representing the theoretical construct must then be created. Scale items must be relevant, concise, and characterize the factor construct they hypothetically measure (Haynes, Richard, & Kubany, 1995; Loevinger, 1957).

Structural Validity Phase

Structural validity refers to the extent to structure of the psychological measure matches the structure of the theoretical construct (Loevinger, 1957). Stated differently, does the measure accurately capture and measure all aspects of the characteristic it is

claimed to measure? In this phase, an item selection strategy is developed, data is collected and submitted to psychometric evaluation, and final scale corrections are made (Simms & Watson, 2007).

The prevailing literature describes the selection of items as justified by mutually exclusive methods from a rational-theoretical approach, empirical criterion, or factor analysis and internal consistency (Simms & Watson, 2007). Each of these methods have strengths and weaknesses; however, Simms and Watson proposed that a more integrative approach may be more effective in that it "capitalizes on the unique strengths of each [method] and makes it more likely that resultant measures will evidence adequate construct validity" (p. 241).

Rational-theoretical approach. In this approach, test developers begin by writing items that appear to measure the theoretical construct they hypothetically represent. Next, experts evaluate each item on its ability to describe and distinguish the construct (Simms & Watson, 2007). The resulting item pool is subjected to further testing to determine representativeness. Replicated Rational Selection (RRS), a method created by Harkness, Finn, McNulty, and Shields (2012) for the development of the PSY-5 scales in the MMPI-2, is an example of the rational-theoretical approach. Harkness and colleagues felt that this method avoided differences of interpretation between item developer and item responders.

Empirical criterion approach. The empirical criterion method is another popular method of selecting items (Simms & Watson, 2007). The MMPI-2 was developed utilizing this method by identifying a number of individuals with specific disorders and allowing them to respond to a set of items. MMPI-2 items were associated

with those disorders based on frequency of responses, despite any obvious relevance to the disorder itself. Loevinger (1957) concluded that because these methods were not theoretically based, they did not adequately describe psychological disorders. Scales developed using this method are generally heterogeneous and demonstrate a lack of internal consistency.

Internal consistency approach. The internal consistency approach encompasses a number of psychometric techniques that range from factor analysis to more modern techniques such as IRT. In such approaches, an initial item pool is administered to a number of participants and items are kept or eliminated based on their responses (Simms & Watson, 2007). The items that remain are organized into scales based on the resulting factor structure. The final scales are generally homogeneous and discriminatory (Clark & Watson, 1995).

External Validity Phase

The External Validity Phase is primarily concerned with convergent, discriminant, and criterion-related validities. During this phase, the relationship between the developed instrument and other established instruments that report to measure a similar construct is examined (Simms & Watson, 2007). Loevinger (1955) noted that these measures must be related, but not equivalent. Further, the developed instrument must not be related to established instruments that do not measure similar constructs (Simms & Watson, 2007).

Convergent and discriminant validity. Convergent validity is the extent to which an instrument is correlated with other instruments with similar constructs. Discriminant validity is the extent to which an instrument is unrelated to other

instruments with distinctly different constructs (Warner, 2008). Campbell and Fiske (1959) created the MMTM to facilitate the evaluation of the convergent and discriminant validity of an instrument by correlating multiple measures of at least two constructs. A confirmatory factor analysis could also be used to examine these validities as well (Simms & Watson, 2007).

Criterion-related validity. Criterion-related validity is the extent that the instrument is related to factors not measured by the instrument itself (Warner, 2008). Many of these variables could be gathered from demographic or general questionnaires that generally precede most assessments (Simms & Watson, 2007). Essentially, criterion-related validity is a measure of how well the instrument in question predicts a particular outcome or set of behaviors (Pennington, 2003). Criterion-related validity could be divided into concurrent validity, measuring the instruments relationship with another instrument administered at the same time, or predictive validity, measuring how well the instrument predicts an outcome or behavior assessed at a future date (Warner, 2008).

Summary

According to many researchers, psychopathy is characterized by significant behavioral indicators such as superficial charm, absence of delusions and other irrational thinking, absence of nervousness, unreliability, untruthfulness and insincerity, lack of remorse and shame, inadequately motivated antisocial behavior, poor judgment, egocentricity, inadequate emotional capacity, loss of insight, lack of interpersonal relations, uninviting behavior, suicidal threats, impersonal sexual relations, and failure to follow any life plan (Cleckley, 1941; Hare, 1999; Miller et al., 2001). Even the current diagnostic criteria of APD, of which psychopathy is considered to be a subset (Cloninger

et al., 1999; Miller et al., 2001), are primarily a list of behavioral symptoms (APA, 2000). These behaviors are important to consider in rendering a diagnosis of psychopathy or APD, but personality traits should be examined as well.

In recognizing and distinguishing the particular personality traits present in psychopathy, a better understanding of the etiology of the disorder and possible treatment methods may be determined. Hare (1999) stated that adult psychopathic individuals are treatment resistant, often provide barriers, and "derail" treatment in group formats. Perhaps if these difficulties were addressed much earlier, during childhood, psychopathic behaviors could be reduced. A great deal of the research addressing personality traits regarding psychopathy is concerned with the broad domains present in theories such as the FFM and the HEXACO (Lee & Ashton, 2005; Lynam, 2001; Widiger & Lynam, 1998). Widiger and Lynam recognized that a better understanding of the disorder might be generated through a facet-level analysis rather than in a domain-level. Within the FFM, facets found within the domain of Conscientiousness, Agreeableness, Neuroticism, and Openness to Experience have been found to provide the most value in describing psychopathy (Morey et al., 2000; Reynolds & Clark, 2001; Widiger & Lynam, 1998). However, if only the domains were considered, Neuroticism and Openness to Experience did not show a significant relationship to the disorder (Widiger & Lynam, 1998). Neuroticism and Openness to Experience's respective facets provide the greatest discrimination.

When considering which personality construct is able to best describe a psychopathic individual, numerous studies would lead you to believe that the FFM would be best suited for this (Clark, 1993a; Lynam & Widiger, 2001; Miller et. al, 2001).

However, the HEXACO may provide a more viable alternative to the FFM. While there are a significant number of similarities between the FFM and the HEXACO, the HEXACO has been found to be superior to the FFM in being more culturally sensitive due to its development through seven different languages (Lee & Ashton, 2004). Additionally, there has been concern regarding the FFM and the identification of a sixth factor and little support for the domain of Openness to Experience (Ashton & Lee, 2007; Church et al., 1997; Clark, 1993a).

Goals of the Current Study

The traits within the HEXACO model may be able to capture the psychopathic profile more effectively than the FFM can. Traits within the HEXACO may be found within the Honesty-Humility domain, as well as in the Conscientiousness, Agreeableness, and Extraversion domains (De Vries & Van Kampen, 2010). However, aside from Lee and Ashton (2005), Lee, Ashton, and De Vries (2005), and De Vries and Van Kampen (2010), few studies have examined psychopathy utilizing the HEXACO framework. It was the goal of this study to add to the current literature concerning the effectiveness of measures of normal personality to describe the psychopathic phenomenon. To this end, the HEXACO PI-R was utilized to measure personality trait levels in psychopathic individuals.

Hypotheses

Hypothesis One

It is hypothesized that sincerity, fairness, greed avoidance, and modesty, facets within the Honesty-Humility domain, will be negatively correlated with factors of the PPI-R: Machiavellian Egocentricity, Rebellious Nonconformity, Blame Externalization,

Carefree Nonplanfulness, Social Influence, Fearlessness, Stress Immunity, and Coldheartedness.

Hypothesis Two

It is hypothesized that diligence, prudence, and perfectionism, facets within the Conscientiousness domain, will be negatively correlated with factors of the PPI-R.

Hypothesis Three

It is hypothesized that gentleness, flexibility, forgiveness, and patience, facets within the Agreeableness domain, will be negatively correlated with factors of the PPI-R.

Hypothesis Four

It is hypothesized that social boldness, a facet within the Extroversion domain, will be positively correlated with factors of the PPI-R.

Hypothesis Five

It is hypothesized that anxiety and sentimentality, facets within the Emotionality domain, will be negatively correlated with factors of the PPI-R.

Justification. With the exception of Lee and Ashton's (2005) study investigating psychopathy; Lee, Ashton, and De Vries' (2005) study on workplace delinquency and deviance; and De Vries and Van Kampen's (2010) study examining the relationship between the HEXACO, 5DPT, and psychopathy; little research has been conducted that utilizes the HEXACO PI-R in the detection of psychopathic characteristics. This study provided additional evidence that the HEXACO personality model can effectively identify personality traits in psychopathic individuals. These studies have demonstrated that these facets in the HEXACO and corresponding levels would likely provide the most

information regarding psychopathic characteristics (De Vries & Van Kampen, 2010; Lee & Ashton, 2005; Lee, Ashton, & De Vries, 2005).

Hypothesis Six

In providing evidence of construct validity, it is predicted that the personality profile identified from the HEXACO will be a significant predictor of the Rejection, Callousness, and Narcissism subscales from the Dissocial Behaviors Index in the DAPP-SF.

Justification. The DAPP-SF has been used extensively in the detection of personality disorders. Because of its capacity to detect personality disorders and measure their severity, it is an appropriate instrument to assess construct validity. Goldner, Srikameswaran, Schroeder, Livesley, & Birmingham (1999) found the Rejection, Callousness, and Narcissism subscales of the Dissocial Index to be related to psychopathy.

CHAPTER TWO

METHOD

Participants

Four hundred forty students from undergraduate and graduate classes offered at a southern university volunteered to participate in the study. Of the 440 sets of responses, 23 were excluded due to missing data, and an additional 25 were dropped due to invalid profiles. Ultimately, 352 valid and complete response sets (136 men and 216 women) were analyzed from the student sample. The average age of student respondents was 20.63 (*SD* = 4.96) and represented a cross-section of ethnicities (57 [16%] African Americans, 11 [3%] Asians, 264 [75%] Caucasians, 11 [3%] Hispanic, and nine [3%] from other ethnicities). In terms of cohort level, 35% were freshmen, 36% were sophomores, 16% were juniors, and 13% were seniors.

Eighty-five inmates from a southern parish jail volunteered to participate in the study. Twenty response sets were excluded from the inmate sample due to missing data and invalid profiles. The average age of the 65 remaining response sets (43 men and 22 women) was 36.65 (*SD* = 11.58) years and represented a cross section of ethnicities (34 [53%] African Americans, 27 [42%] Caucasians, one [2%] Hispanic, and two [3%] other ethnicities). The majority of the inmates (95%) had a prior arrest history, by report, with most having multiple arrests (81%). Eight of the inmates with prior arrests had been arrested only once. Further, 80% had been in jail before and 42%

had been to prison at least once. Only 37% had received disciplinary action while incarcerated.

A chart review of admissions to a substance abuse rehabilitation facility in the southern united states was conducted. Following admission into the substance abuse rehabilitation program, patients were administered a battery of psychological assessments that included the HEXACO PI-R and the DAPP-SF. Three hundred thirty-five charts were de-identified prior to examination, of which 78 were excluded due to missing data or invalid response sets. Of the remaining 257 records, only the gender and age of the participants were available. The mean age of the patients at the substance abuse rehabilitation facility was 40.29 (SD = 10.92) years and there were 126 females and 131 males.

The students and inmates were informed that their participation or non-participation would have no effect on the outcomes of their respective course grades or judicial circumstances, all information gathered would be confidential, and that they could withdraw from the study for any reason without repercussions. The college students were offered extra credit in the classes for their participation as well as several alternatives if they did not wish to take part in this study. All of the participants were advised of the focus of the study through the informed consent process and were given directions where they could obtain counseling if needed as a result of being a participant. The study was approved by the Institutional Review Board (Appendix A)

Measures

A demographic survey requested information regarding gender, ethnicity, age, and number of convictions for the student and inmate samples (Appendices B & C).

Three measures were administered to examine personality traits, presence of personality disorders, and psychopathic characteristics (Appendices D & E). Additionally, an impression management measure was utilized to assess response validity (Appendix F). No personally identifying material was gathered in any of the surveys in the study.

HEXACO Personality Inventory – Revised

The *HEXACO Personality Inventory - Revised* short form (HEXACO PI-R; Ashton & Lee, 2004) is a 100-item questionnaire designed to measure personality as defined by the six-factor HEXACO model. Each of the six factors – Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience – contains four facets. The facets within the Honesty-Humility domain are sincerity, fairness, greed avoidance, and modesty; within the Emotionality domain the facets are fearfulness, anxiety, dependence, and sentimentality; within the Extraversion domain, the facets are expressiveness, social boldness, sociability, and liveliness; within the Agreeableness domain, the facets are forgiveness, gentleness, flexibility, and patience; within the Conscientiousness domain, the facets are organization, diligence, perfectionism, and prudence; and within the Openness to Experience domain, the facets are aesthetic appreciation, inquisitiveness, creativity, and unconventionality. Each facet is represented by four items and the 24 facet-level scales are identical to the longer 200-item version. The HEXACO PI-R instrument utilizes a five-point Likert scale ranging from "*strongly disagree*" to "*strongly agree.*" It also has been shown to be a reliable instrument with an internal consistency ranging from .81 to .85.

During the development of the HEXACO PI, Lee and Ashton (2004) compared the HEXACO PI domains with scales developed from the *International Personality Item*

Pool (IPIP; Goldberg, 1999) representing: a) the three FFM domains of Extraversion, Conscientiousness, and Intellect/Imagination; b) two scales from the Abridged Big Five Circumplex (AB5C) corresponding to Agreeableness and Emotional Stability; and c) the Primary Psychopathy Scale (Levenson et al., 1995). Lee and Ashton found that all the factor-level domains and relevant facets of the HEXACO PI demonstrated strong convergent validity based on strong correlations with their corresponding marker scales. The convergent validity for the Extraversion scale was the highest at .86 and the lowest convergent validity .68, found between the IPIP scale of Intellect/Imagination and Openness to Experience. Furthermore, they found the correlations between the domains of the HEXACO PI to be "fairly low" (p. 345) with the highest correlation at .21.

In another study, Lee and Ashton (2008) found that factors derived from "adjective self-ratings" (p. 1001) showed strong convergent and weak discriminant correlations with items from the HEXACO PI peer-rating form. They reported that the HEXACO PI domains of Conscientiousness, Honesty-Humility, Agreeableness, and Openness to Experience showed factor-score convergent correlation of .93 or higher. The remaining domains of Extraversion and Emotionality showed convergent correlations of .87 and .86 respectively. The validity of this instrument was demonstrated by Lee and colleagues (2009) when they examined self- and peer-rater agreement on the HEXACO PI. They found strong agreement between the raters on all of the HEXACO domains with correlations averaging .55.

Dimensional Assessment of Personality Pathology – Short Form

The short form of the DAPP, the DAPP-SF (Van Kampen et al., 2008) was utilized to examine the characteristics of personality disorders. The short form consists of

136 items that utilize a five-point Likert scale ranging from "*very unlike me*" to "*very like me.*" It measures personality pathology through 18 subscales: anxiety, affective instability, identity problems, insecure attachment, narcissism, self-harm, submissiveness, stimulus seeking, restricted expression, intimacy problems, social avoidance, rejection, suspiciousness, conduct problems, callousness, compulsivity, oppositionality, and cognitive distortion. The DAPP-SF has been shown to be a reliable instrument with subscale internal consistency ranging from .78 to .89.

The validity of the DAPP-SF has been demonstrated by its utility in other studies. During the development of the short form of the DAPP Basic Questionnaire (DAPP-BQ), Van Kampen, De Beurs, and Andrea (2008) compared the DAPP-SF to corresponding scales of Insensitivity, Extraversion, Neuroticism, Orderliness, and Absorption within the 5DPT as well as the DAPP-BQ. They found subscale convergent validity ranging from .58 to .79 between the DAPP-SF and the 5DPT and from .78 to .92 between the DAPP-SF and DAPP-BQ. In 2009, De Beurs, Rinne, Van Kampen, Verheul, and Andrea assessed the reliability and validity of the Dutch version of the DAPP-SF. They found significant convergent validity ranging from .08 to .69 between DAPP-SF subscales and SCL-90 subscales and .06 to .68 between DAPP-SF subscales and BSI subscales. In a 2010 study, De Beurs, Rinne, Van Kampen, Verheul, and Andrea found that the DAPP-SF demonstrated criterion-related validity when significant differences were found between a community-based sample and a sample of patients with identified personality disorders.

It is necessary to examine the validity of the DAPP-BQ because validity data concerning the short form is limited. However, the convergent validity between the

DAPP-BQ and the DAPP-SF is strong. Jang and Livesley (1999) found strong correlations between the DAPP-BQ dimensions and the NEO-FFI Neuroticism, Extraversion, Agreeableness, and Conscientiousness domains that ranged from .81 to .65. There was a small correlation between the DAPP-BQ domains and the NEO-FFI domain of Openness to Experience domain at .20. Furthermore, Larstone, Jang, Livesley, Vernon, and Wolf (2002) were able to demonstrate a strong relationship between the NEO-PI-R and the DAPP-BQ in that each domain in the NEO-PI-R displayed strong correlations to subscales within the DAPP-BQ and increase the amount of variance accounted for by another instrument. In another study, Pryor, Miller, and Gaughan (2009) found an average convergent correlation of .53 between the scales on the SNAP and the DAPP-BQ.

Psychopathic Personality Inventory – Revised

The *Psychopathic Personality Inventory –Revised* (Lilienfeld & Widows, 2005) was utilized to examine the characteristics inherent in psychopathic individuals. The PPI-R consists of 154 items, arranged into eight scales that utilize a four-point Likert scale ranging from "*false*" to "*true*." The eight scales are Machiavellian Egocentricity, Social Influence, Fearlessness, Cold-heartedness, Rebellious Nonconformity, Blame Externalization, Carefree Nonplanfulness, and Stress Immunity. These scales map onto three factor domains: Fearless Dominance, Self-Centered Impulsivity, and Cold-heartedness. The Fearless Dominance domain is composed of the Social Influence, Fearlessness, and Stress Immunity scales and reflects lack of "anticipatory social and physical anxiety, low levels of tension and worry, low harm avoidance, and high levels of interpersonal dominance" (Lilienfeld & Widows, 2005, p. 22). The Self-Centered

Impulsivity domain is composed of Machiavellian Egocentricity, Rebellious Nonconformity, Carefree Nonplanfulness, and Blame Externalization and reflects a "self-centeredness, ruthless use of others, brazen flouting of traditional values, a propensity to attribute blame to others for one's mistakes, and reckless impulsivity" (Lilienfeld & Widows, 2005, p. 22). The instrument has been shown to be reliable with scale internal consistency correlations ranging from .71 to .92. Internal consistency of the total score ranged from .84 to .92.

The validity of the PPI-R has been demonstrated through studies investigating its effectiveness in measuring psychopathy. During the development of the PPI, Lilienfeld and Andrews (1996) found the PPI to have convergent and discriminant validity when compared to the Socialization scale (r = -.59) on the *California Personality Inventory* (CPI; Gough & Bradley, 1996), the Antisocial Practices scale (r = .56) on the MMPI-2, and Antisocial Personality Disorder scale (r = .58) on the *Personality Diagnostic Questionnaire-Revised* (PDQ-R; Hyler & Reider, 1984). Poythress, Edens, and Lilienfeld (1998) confirmed the validity of the PPI when they examined the relationship between the PPI and the PCL-R. They found convergent validity of the total scores at .54. Furthermore, in a study of female inmates, Chapman, Gremore, and Farmer (2003) found that the PPI total score correlated strongly with the CPI Socialization scale (r = -.60) and with the PAI Antisocial Features scale (r = .81).

Marlowe-Crowne Social Desirability Scale – Short Form

The Marlowe-Crowne Social Desirability Scale – Short Form (MCSDS-SF; Ballard, 1992) is a 13-item scale derived through a principle components analysis from the full scale developed by Marlowe and Crowne (Crowne & Marlowe, 1960). The

MCSDS measures positive impression management using a dichotomous *true* or *false* choice format. This instrument has been shown to be reliable with an internal consistency correlation of .70 and a cutoff score of eight was used based on $M = 5.31$ and $SD = 2.90$ derived from the instrument.

There are few studies that correlate the full version with the short form version; however, reliability estimates are comparable, .75 and .70, when assessing similar samples. In 2003, Andrews and Meyer found that that the 13-item version correlated highly (r = .91) with the full version in a forensic sample. In their study of sex offenders, Tatman, Swogger, Love, and Cook (2009) found significant and positive relationships between the full version of the MCSDS and the L ($r = .54$) and K ($r = .24$) scales of the MMPI-2.

In 1982, Reynolds found that the 13-item version was a viable alternative to the full version but correlated weakly with the Edwards Social Desirability Scale ($r = .41$) possibly due to range restrictions within the Edwards scale. Silverstein (1983) examined the validity of six short forms of the MCSDS and found the 13-item version to be highly valid ($r = .80$) and "better than random" (p. 582).

Procedure

The college students were administered the assessment package through the Survey Monkey website. Their respective course instructors provided them the Survey Monkey web address for the study and the students' electronic signature signified their consent to participate. The students were directed as to how they could obtain extra credit for the class by printing out the signature page of the survey and returning it to the course instructor. The volunteers from the correctional facility participated in a paper-based

administration due to computer access restrictions. These participants were given verbal instructions prior to administration of the assessment packet. Each packet contained the three assessments, the demographic survey, and an informed consent form. The records from the chart review of the patients at a substance abuse rehabilitation facility in the southern United States contained completed personality tests. The substance abuse rehabilitation facility administration approved the use of the records and they were de-identified prior to their release. All participants were given detailed instructions, either verbally or through the web page, concerning the study objectives, how to obtain counseling, tutoring sessions, and the results of the study if they desire. They were informed that the assessments would take approximately two hours to complete.

The student responses were randomly divided into two groups of equal size: Group A and Group B. The student responses were split in order to derive predictor formulas from Group A and validate them against Group B. The validated predictor formulas were also validated against an inmate sample. The inmate sample was utilized because it was believed that the presence of psychopathic individuals would be more probable. The predictor formulas were cross-validated using the substance abuse rehabilitation facility sample and a different personality pathology measure.

Correlations were examined for both groups to identify statistically significant relationships between the 25 HEXACO facets (including Altruism) and Machiavellian Egocentricity, Social Influence, Fearlessness, Cold-heartedness, Rebellious Nonconformity, Blame Externalization, Carefree Nonplanfulness, Stress Immunity, and Total Psychopathy on the PPI-R. The correlations were performed to provide support for the first five hypotheses. Means and standard deviation were examined between the

group and established norms to examine if each group performed as expected per prior research. Eight step-wise regressions were performed on Group A to derive predictor formulas and determine the amount of variance accounted for by each facet. These formulas served as the initial part of proving the sixth hypothesis. Only the HEXACO facets that were significant at a $p < .001$ level were used to predict scales of the PPI-R as a conservative benchmark to ensure adequate significance. The regression formulas were used to predict the PPI-R scales in Group B. The predicted PPI-R scores from Group B were correlated with the actual PPI-R scores in that group in order to examine the relationship and provide support for the sixth hypothesis. The regression equations were cross-validated against the inmate sample.

The order of entry differed for each variable set. For Group A, the order of entry for the Machiavellian Egocentricity set was as follows: Step 1, sincerity; Step 2, fairness; Step 3, greed avoidance; Step 4, modesty; and Step 5, forgiveness. The order of entry for the Rebellious Nonconformity set was as follows: Step 1, fairness; Step 2, prudence; Step 3, aesthetic appreciation; Step 4, creativity; and Step 5, unconventionality. The order of entry for the Blame Externalization set was as follows: Step 1, anxiety; Step 2, social self-esteem; Step 3, liveliness; Step 4, forgiveness; and Step 5, patience. The order of entry for the Carefree Nonplanfulness set was as follows: Step 1, fairness; Step 2, social self-esteem; Step 3, organization; Step 4, diligence; Step 5, perfectionism; Step 6, prudence; and Step 7, altruism. The order of entry for the Social Influence set was as follows: Step 1, greed avoidance; Step 2, social self-esteem; Step 3, social boldness; Step 4, sociability; Step 5, liveliness; Step 6, diligence; and Step 7, creativity. Fearlessness was predicted using a standard regression with the fearfulness facet as the only predictor

variable. The order of entry for the Stress Immunity set was as follows: Step 1, fearfulness; Step 2, anxiety; Step 3, dependence; Step 4, sentimentality; Step 5, social self-esteem; Step 6, liveliness; Step 7, forgiveness; and Step 8, patience. The order of entry for the Coldheartedness set was as follows: Step 1, fairness; Step 2, modesty; Step 3, sentimentality; Step 4, gentleness; and Step 5, altruism. No particular rationale was used for the order of entry because all were personality facets from the HEXACO PI-R and no facet was theoretically deemed more important than the others.

The groups were merged and correlations were performed between the PPI-R and the DAPP-SF to examine the relationship between the scales and to verify those DAPP-SF scales that are theoretically related to PPI-R scales. The regression formulas were then used to predict those DAPP-SF subscales from the Dissocial Index in the substance abuse rehabilitation facility sample.

CHAPTER THREE

RESULTS

Preliminary screening of all data, including an examination of histograms and scatter plots, indicated that all data and numbers met assumptions of normality. Analysis of univariate histograms revealed that the data was normally distributed and had no unreasonable outliers. Skewness and kurtosis were within normal limits. The student sample was divided into two groups of 176 respondents each.

Group A Descriptive Data and Correlations

The means and standard deviations of select demographic variables for Group A are presented in Table 4. The mean age for Group A was 20.39 (*SD* = 2.66) years, the mean GPA was 3.07 (*SD* = 0.55), and there were 10 arrests of which two were incarcerated or arrested and held. Only eight of the students were arrested from Group A, with two having two arrests.

Table 4

Means and Standard Deviations for Age, GPA, Number of Arrests, and Number of Incarcerations for Group A

	M	*SD*
Age	20.39	2.66
GPA	3.07	0.55
Number of Arrests (10)	0.05	0.00
Number of Incarcerations (2)	0.01	0.00

Note: GPA = grade point average

The mean scores for the HEXACO facets of Group A varied between 52.21 (*SD* = 7.63) for the Fairness facet to 41.04 (*SD* = 7.23) for the Anxiety facet. The means and standard deviations for all the HEXACO PI-R facets measured in Group A are listed in Table 5.

Table 5

Means and Standard Deviations of HEXACO Facets for Group A

	M	*SD*
Sincerity	49.31	9.90
Fairness	52.21	7.63
Greed Avoidance	49.39	7.67
Modesty	49.04	8.34
Fearfulness	52.10	8.73
Anxiety	41.04	7.23
Dependence	42.07	8.06
Sentimentality	48.17	8.52
Social Self-Esteem	47.34	10.04
Social Boldness	50.03	8.80
Sociability	49.33	9.91
Liveliness	48.49	9.19
Forgiveness	50.26	9.14
Gentleness	52.07	8.17
Flexibility	50.28	8.84
Patience	48.79	9.63
Organization	51.47	8.69
Diligence	50.18	8.86
Perfectionism	49.85	8.03
Prudence	49.23	8.71
Aesthetic Appreciation	48.36	9.12
Inquisitiveness	45.61	9.87
Creativity	45.15	9.42
Unconvention	46.67	9.00
Altruism	46.85	9.80

The mean scores from the PPI-R for Machiavellian Egocentricity ranged from 56.63 (*SD* = 9.61) to 45.97 (*SD* = 8.75) for Stress Immunity. The means and standard

deviations for all the PPI-R scales that were measured for Group A are presented in Table 6.

Table 6

Means and Standard Deviations of PPI-R Scales for Group A

	M	*SD*
Machiavellian Egocentricity (ME)	56.63	9.61
Rebellious Nonconformity (RN)	56.56	8.81
Blame Externalization (BE)	55.85	8.68
Carefree Nonplanfulness (CN)	54.87	10.66
Social Influence (SOI)	49.28	9.30
Fearlessness (F)	53.70	10.48
Stress Immunity (STI)	45.97	8.75
Coldheartedness (C)	51.26	11.87

Many of the correlations between the variables in Group A, the HEXACO facets and the PPI-R scales, reflected the literature and supported what was hypothesized. For example, significant and negative correlations were found between the Sincerity, Fairness, Greed Avoidance, and Modesty facets of the Honesty-Humility domain of the HEXACO PI-R and the Machiavellian Egocentricity scale from the PPI-R. Correlations ranged from -.53 (Sincerity) to -.29 (Modesty). Further, Altruism was negatively and moderately related to Coldheartedness (r = -.48), Rebellious Nonconformity (r = -.15), Blame Externalization (r = -.19), and Carefree Nonplanfulness (r = -.28). Altruism was also positively related to Social Influence (r = .20). The correlations between the HEXACO facets and PPI-R scales for Group A are listed in Table 7.

Table 7

Correlations Between HEXACO facets and PPI-R Scales for Group A

	PPI-R Scales							
HEXACO Facets	ME	RN	BE	CN	SOI	F	STI	C
Sincerity	-.53***	-.16*	-.10	-.07	-.11	-.02	.03	-.19*
Fairness	-.34***	-.28***	-.11	-.26***	.04	-.09	-.04	-.43***
Greed	-.35***	.03	-.00	.08	-.30***	-.05	.72	.37
Avoidance								
Modesty	-.29***	-.10	-.07**	-.16*	-.18*	-.04	-.01	-.28***
Fearfulness	.09	-.10	.09	-.06	-.03	-.37***	-.37***	-.22**
Anxiety	.14	.06	.28***	-.16*	.03	-.09	-.47***	.22**
Dependence	.09	-.00	.05	-.02	.03	-.15	-.29***	-.21**
Sentimentality	-.04	-.03	.07	-.11	.11	-.10	-.24***	-.51***
Social Self Esteem	-.18*	-.23**	-.31***	-.32***	.47***	-.02	.34***	-.12
Social Boldness	.02	-.11	-.10	.10	.73***	.01	.22*	-.01
Sociability	-.06	-.13	-.17*	-.24**	.63***	.06	.16*	-.22**
Liveliness	-.08	-.11	-.30***	-.18*	.53***	.11	.41***	-.15**
Forgiveness	-.33***	-.11	-.28***	-.02	-.03	-.10	.28***	-.20**
Gentleness	-.21**	.02	-.04	-.15*	.09	.15	.09	-.34***
Flexibility	-.23**	-.06	-.09	-.01	-.19*	.02	.12	-.12
Patience	-.20**	-.04	-.27***	.01	-.13	.03	.35***	-.15
Organization	-.11	-.23**	-.11	-.41***	.08	.06	-.03	-.04
Diligence	-.09	-.22*	-.17*	-.47***	.30***	.04	.11	-.10
Perfectionism	-.03	-.17*	-.06	-.40***	.09	-.16*	-.04	-.12
Prudence	-.20**	-.29***	-.16*	-.46***	.05	-.17*	.01	-.09
Aesthetic Appreciation	.06	.28***	.04	.05	-.08	.03	.04	-.08
Inquisitive	.03	.09	-.09	.02	-.13	-.11	.13	.05
Creativity	-.02	.24***	-.01	-.03	.28***	.05	.16*	-.17*
Unconvention	.01	.34***	-.03	.03	.07	.11	.11	.05
Altruism	-.14	-.15*	-.19*	-.28***	.20**	-.03	.03	-.48***

Note: ME = Machiavellian Egocentricity, RN = Rebellious Nonconformity, BE = Blame Externalization, CN = Carefree Nonplanfulness, SOI = Social Influence, F = Fearlessness, STI = Stress Immunity, C = Coldheartedness

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

Group B Descriptive Data and Correlations

The mean age for Group B was 20.49 (*SD* = 4.81) years, the mean GPA was 3.18 (*SD* = 0.58), and there were 11 arrests of which two were incarcerated or arrested and held. Only six of the students were arrested from Group B. Two students had three arrests and one student was arrested twice. Group B data are presented in Table 8 (select demographic data), Table 9 (HEXACO data), Table 10 (PPI-R data), and on Table 11 (correlations) for ease of the reader.

Table 8

Means and Standard Deviations for Age, GPA, Number of Arrests, and Number of Incarcerations for Group B

	M	*SD*
Age	20.49	4.81
GPA	3.18	0.58
Number of Arrests (11)	0.03	0.00
Number of Incarcerations (2)	0.06	0.00

Note: GPA = grade point average

Table 9

Means and Standard Deviations of HEXACO Facets for Group B

	M	*SD*
Sincerity	53.54	8.89
Fairness	54.81	7.87
Greed Avoidance	53.44	8.32
Modesty	51.33	9.20
Fearfulness	51.38	8.85
Anxiety	39.71	7.59
Dependence	41.72	8.42
Sentimentality	48.36	8.50
Social Self-Esteem	48.78	9.95
Social Boldness	48.01	9.37
Sociability	45.98	11.42
Liveliness	49.67	9.10
Forgiveness	50.56	8.90
Gentleness	52.71	8.33
Flexibility	51.03	9.48
Patience	50.90	9.45
Organization	53.78	8.52
Diligence	53.15	9.68
Perfectionism	51.86	8.64
Prudence	53.19	8.70
Aesthetic Appreciation	48.30	8.95
Inquisitiveness	45.87	9.78
Creativity	47.18	9.40
Unconvention	45.76	8.13
Altruism	49.80	9.18

Table 10

Means and Standard Deviations of PPI-R Scales for Group B

	M	*SD*
Machiavellian Egocentricity (ME)	49.24	9.95
Rebellious Nonconformity (RN)	50.90	8.42
Blame Externalization (BE)	51.46	9.64
Carefree Nonplanfulness (CN)	49.56	11.73
Social Influence (SOI)	46.90	9.00
Fearlessness (F)	52.95	9.91
Stress Immunity (STI)	48.71	8.94
Coldheartedness (C)	51.39	12.15

Table 11

Correlations Between HEXACO Facets and PPI-R Scales for Group B

	PPI-R Scales							
HEXACO Facets	ME	RN	BE	CN	SOI	F	STI	C
Sincerity	-.37***	-.08	-.06	-.24***	-.08	-.02	.17*	.01
Fairness	-.56***	-.32***	-.24**	-.31***	-.11	-.18*	.09	-.19**
Greed	-.42***	-.09	-.12	-.17*	-.14	-.05	.10	-.19*
Avoidance								
Modesty	-.41***	-.12	-.20**	-.23**	-.18*	.01	-.01	-.36***
Fearfulness	-.02	-.12	.01	-.08	-.16*	-.39***	-.51***	-.27***
Anxiety	-.05	-.03	.18*	-.25***	-.11	.06	-.42***	-.28***
Dependence	-.04	-.04	-.02	-.06	-.03	-.17*	-.43***	-.34***
Sentimentality	-.03	.01	-.01	-.07	.09	-.09	-.25***	-.47***
Social	-.12	-.08	-.42***	-.26***	.48***	.06	.49***	.04
Self Esteem								
Social	.19*	.24***	.05	.08	.70***	.32***	.28***	.14
Boldness								
Sociability	.10	.11	-.09	.06	.54***	.13	.03	-.19*
Liveliness	-.11	.02	-.26***	-.19*	.47***	.12	.29***	-.22**
Forgiveness	-.30***	.01	-.32***	.02	.10	-.07	.17*	-.22**
Gentleness	-.32***	-.01	-.33***	-.10	.21**	.01	.17*	-.28***
Flexibility	-.31***	.01	-.30***	.03	.11	.00	.21**	-.03
Patience	-.30***	-.09	-.32***	-.03	.08	-.02	.21**	-.11
Organization	-.13	-.12	-.03	-.38***	.22**	.05	.17*	-.01
Diligence	-.23**	-.22**	-.10	.59***	-.20**	-.11	.10	-.22**
Perfectionism	-.03***	-.17*	.02	-.43***	.10	-.02	.05	.04
Prudence	-.38***	-.38***	-.33***	-.46***	-.01	-.18*	.22**	.04
Aesthetic	-.25***	.20*	-.11	-.06	-.08	.04	-.12	-.16*
Appreciation								
Inquisitive	-.07	.11	-.09	.05	.00	.01	.04	.03
Creativity	-.10	.21**	-.09	-.06	.13	.06	.02	-.04
Unconvention	-.02	.23**	-.14	.10	.04	.06	-.12	-.06
Altruism	-.40***	-.12	-.34***	-.32***	.11	-.10	-.08	-.47***

Note: ME = Machiavellian Egocentricity, RN = Rebellious Nonconformity, BE = Blame Externalization, CN = Carefree Nonplanfulness, SOI = Social Influence, F = Fearlessness, STI = Stress Immunity, C = Coldheartedness

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

Inmate Descriptive Data and Correlations

The relationships between the HEXACO PI-R and the PPI-R for the inmate sample were examined. Sixty-two inmates (95%) had an arrest history prior to the current offense ($M = 9.42$ arrests, $SD = 17.12$). Arrest history was skewed because several inmates reported being arrested over 100 times. Fifty-two (80%) of the inmates had been previously incarcerated, prior to the current offense, in a parish, county, or city jail for several years ($M = 2.94$ years, $SD = 3.57$). Twenty-seven (42%) of the inmates had been incarcerated in prison, for a number of years, prior to the current offense ($M = 5.48$ years, $SD = 3.22$). Inmate incarceration data were skewed similarly to arrest history due to several inmates reported being incarcerated 20 or 30 years. Only 24 (37%) of the inmates had received disciplinary action while in jail that had been documented ($M = 2.92$ write-ups, $SD = 2.65$). The standard deviations ranged from 17.12 (number of arrests) to 2.65 (number of write-ups). The means and standard deviations of select demographic variables for the inmate sample are presented in Table 12, means and standard deviation for HEXACO data in Table 13, and PPI-R data in Table 14.

Table 12

Means and Standard Deviations for Age, Number of Arrests, and Number of Years in Jail, Number of Years in Prison, Number of Write-ups for the Inmate Sample

	M	*SD*
Age	36.65	11.58
Number of Arrests (62 inmates)	9.42	17.12
Number of Years in Jail (52 inmates)	2.94	3.57
Number of Years in Prison (27 inmates)	5.48	3.22
Number of Write-Ups (24 inmates)	2.92	2.65

Table 13

Means and Standard Deviations of HEXACO Facets for the Inmate Sample

	M	*SD*
Sincerity	54.20	5.70
Fairness	49.62	5.73
Greed Avoidance	44.65	5.85
Modesty	61.98	8.88
Fearfulness	48.49	7.07
Anxiety	59.54	7.12
Dependence	53.77	6.53
Sentimentality	48.71	8.94
Social Self-Esteem	69.32	13.61
Social Boldness	56.01	7.89
Sociability	59.54	5.83
Liveliness	50.69	7.84
Forgiveness	64.72	2.98
Gentleness	49.20	6.14
Flexibility	45.87	6.75
Patience	50.19	5.11
Organization	53.48	5.77
Diligence	59.42	6.96
Perfectionism	58.47	9.20
Prudence	52.93	6.57
Aesthetic Appreciation	43.12	8.17
Inquisitiveness	52.34	5.95
Creativity	56.79	7.35
Unconvention	57.17	5.24
Altruism	57.62	9.76

Table 14

Means and Standard Deviations of PPI-R Scales for the Inmate Sample

	M	*SD*
Machiavellian Egocentricity (ME)	52.59	11.00
Rebellious Nonconformity (RN)	59.85	12.56
Blame Externalization (BE)	55.06	11.26
Carefree Nonplanfulness (CN)	52.90	12.02
Social Influence (SOI)	50.95	14.01
Fearlessness (F)	56.08	12.60
Stress Immunity (STI)	84.43	12.66
Coldheartedness (C)	47.28	9.78

There were significant and negative relationships between the sincerity facet from the HEXACO PI-R and the Machiavellian Egocentricity (r = -.30), Rebellious Nonconformity (r = -.32), Carefree Nonplanfulness (r = -.33), and Coldheartedness (r = -.31) scales from the PPI-R. Fairness, Greed Avoidance, and Modesty were not correlated with Machiavellian Egocentricity, contrary to what was hypothesized, and Fairness was only negatively correlated with Fearlessness (r = -.34). All of the correlations between the HEXACO facets and the PPI-R scales for the inmate sample are listed in Table 15.

Table 15

Correlations Between HEXACO facets and PPI-R Scales for the Inmate Group

	PPI-R Scales							
HEXACO Facets	ME	RN	BE	CN	SOI	F	STI	C
Sincerity	-.30*	-.32**	-.23	-.33**	-.04	-.17	.32**	-.31**
Fairness	.08	.08	.04	.03	-.12	-.34**	-.24	-.16
Greed	-.01	.30*	.00	.06	-.28*	.33**	-.17	.04
Avoidance								
Modesty	-.41***	-.44***	.00	-.24	-.10	-.52***	.01	-.42***
Fearfulness	.13	.19	.18	.20	-.12	-.14	-.45***	-.16
Anxiety	-.08	-.06	.06	-.12	.20	-.04	.09	-.25*
Dependence	-.11	-.22	-.24	-.21	.09	-.29*	.01	-.14
Sentimentality	.10	.07	.08	.36**	-.29**	-.19	-.40***	.15
Social Self Esteem	-.33**	-.21	-.30*	-.54***	.13	.13	.43***	-.47***
Social Boldness	-.18	-.15	-.21	-.42***	.35**	.20	.51***	-.35**
Sociability	.07	.06	.14	.09	.19	.23	.08	-.14
Liveliness	.05	.05	-.14	.48***	-.29*	.03	.02	.46***
Forgiveness	.01	-.01	.11	.22	-.02	-.05	-.14	.17
Gentleness	.05	-.08	-.00	.09	.00	.03	.05	-.13
Flexibility	-.26*	-.10	-.31**	.02	-.11	-.03	.07	-.03
Patience	-.08	-.18	.05	.05	-.09	-.06	-.06	.14
Organization	.14	.19	.26*	.04	.01	.11	-.21	-.02
Diligence	.12	.22	-.08	.18	.09	.18	-.17	-.08
Perfectionism	.15	.09	.25*	.14	-.27*	-.32**	-.40***	-.11
Prudence	.09	.16	-.00	-.07	.09	.33**	.01	-.04
Aesthetic Appreciation	-.07	.20	.17	.28*	-.53***	.11	-.36**	.02
Inquisitive	.07	-.11	.14	-.03	-.11	-.09	.11	.11
Creativity	.07	-.07	-.02	-.14	.19	-.03	-.03	-.30*
Unconvention	-.15	-.00	-.08	.02	-.01	.09	-.00	-.09
Altruism	.12	-.00	.18	.21	.09	-.59***	-.29*	.21

Note: ME = Machiavellian Egocentricity, RN = Rebellious Nonconformity, BE = Blame Externalization, CN = Carefree Nonplanfulness, SOI = Social Influence, F = Fearlessness, STI = Stress Immunity, C = Coldheartedness

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

The Substance Abuse Rehabilitation Facility Descriptive Data and Correlations

Data from the substance abuse rehabilitation facility were limited due to the de-identification process. However, the mean age of the patients from the substance abuse rehabilitation facility sample was 40.29 (*SD* = 10.92). Means and standard deviations of the HEXACO facets and DAPP-SF subscales are presented in Tables 16 and 17 respectively.

Table 16

Means and Standard Deviations of HEXACO Facets for the Rehab Sample

	M	*SD*
Sincerity	53.04	9.40
Fairness	51.16	8.72
Greed Avoidance	47.69	9.36
Modesty	51.45	8.54
Fearfulness	49.53	9.08
Anxiety	50.22	10.09
Dependence	54.83	8.00
Sentimentality	50.09	8.18
Social Self-Esteem	66.81	8.05
Social Boldness	51.53	8.20
Sociability	55.16	8.44
Liveliness	50.24	10.26
Forgiveness	57.76	8.89
Gentleness	54.51	8.70
Flexibility	54.40	8.58
Patience	51.65	9.53
Organization	49.52	9.54
Diligence	52.44	8.56
Perfectionism	49.95	9.25
Prudence	49.29	11.12
Aesthetic Appreciation	48.04	9.50
Inquisitiveness	48.86	8.50
Creativity	48.68	8.11
Unconvention	48.99	6.92
Altruism	56.32	8.05

Table 17

Means and Standard Deviations of DAPP-SF Facets for the Rehab Sample

	M	*SD*
Anxiousness	48.71	9.68
Affective Lability	44.07	8.76
Identity Problems	47.97	8.41
Insecure Attachment	46.94	8.60
Narcissism	47.39	8.96
Self-Harm	47.43	5.77
Submissiveness	44.08	8.01
Stimulus Seeking	46.06	10.40
Restricted Expression	45.65	9.07
Intimacy Problems	49.95	7.77
Low Affiliation	45.85	8.99
Rejection	48.17	8.56
Suspiciousness	46.73	7.91
Conduct Problems	50.61	9.44
Callousness	44.74	8.54
Compulsivity	48.16	9.03
Oppositionality	46.82	12.73
Cognitive Dysregulation	42.88	6.54

Group A Regressions

An examination of the step-wise regressions of Group A of the student sample revealed that several of the HEXACO facets were significant predictors of PPI-R scales. To assess the contributions of individual predictors, the *t* ratios for the individual regression slopes were examined for each variable in the step when it first entered the analysis. In Step 1 of the equation predicting Machiavellian Egocentricity, Sincerity was statistically significant, $t(174) = -6.56, p < .001$. Fairness significantly increased R^2 when it was entered in Step 2. In Step 2, $t(173) = -2.88, p < .005$. Greed Avoidance significantly increased R^2 when it was entered in Step 3. In Step 3, $t(172) = -3.39, p < .001$. Forgiveness significantly increased R^2 when it was entered in Step 4. In Step 4, $t(171) = -2.07, p < .04$. Sincerity, Fairness, Greed Avoidance, and Forgiveness were

negatively related to Machiavellian Egocentricity, and all slopes had the expected signs. Overall, Machiavellian Egocentricity was predictable from this set of predictors, and all significantly increased the R^2 when they entered the regression formula. The significant variables with their respective *t* ratios, beta coefficients, and effect sizes for the final regression step for Machiavellian Egocentricity in Group A are presented in Table 18.

Table 18

Summary of Final Step-Wise Regression Step for Machiavellian Egocentricity in Group A

ME						
Predictors		B	β	sr^2	R^2	*t*
Step 4	Sincerity	-0.40***	-0.41***	0.15***	0.28***	-6.56***
	Fairness	-0.23**	-0.18**	0.03**	0.33**	-2.88**
	Greed Avoidance	-0.26***	-0.21***	0.04***	0.38***	-3.39***
	Forgiveness	-0.14*	-0.13*	0.02*	0.40*	-2.07*

Note: ME = Machiavellian Egocentricity

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

In Step 1 of the equation predicting Rebellious Nonconformity, Fairness was statistically significant, $t(174) = -2.96, p < .004$. Prudence significantly increased R^2 when it was entered in Step 2. In Step 2, $t(173) = -3.53, p < .001$. Unconventionality significantly increased R^2 when it was entered in Step 3. In Step 3, $t(172) = 4.70, p < .001$. While Fairness and Prudence were negatively related to Rebellious Nonconformity, Unconventionality was positively related. All slopes had the expected signs. Overall, Rebellious Nonconformity was predictable from this set of predictors, and all significantly increased the R^2 when they entered the regression formula. The significant variables with their respective *t* ratios, beta coefficients, and effect sizes for the final regression step for Rebellious Nonconformity in Group A are presented in Table 19.

Table 19

Summary of Final Step-Wise Regression Step for Rebellious Nonconformity in Group A

RN						
Predictors		B	β	sr^2	R^2	*t*
Step 3	Fairness	-0.23**	-0.20**	0.04**	0.08**	-2.96**
	Prudence	-0.24***	-0.24***	0.06***	0.13***	-3.53***
	Unconventionality	0.31***	0.32***	0.10***	0.23***	4.70***

Note: RN = Rebellious Nonconformity

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

In Step 1 of the equation predicting Blame Externalization, Anxiety was statistically significant, $t(174) = 2.77, p < .006$. Social Self-Esteem significantly increased R^2 when it was entered in Step 2. In Step 2, $t(173) = -3.29, p < .001$. Forgiveness significantly increased R^2 when it was entered in Step 3. In Step 3, $t(172) = -2.08, p < .04$. Anxiety was positively related to Blame Externalization, but Social Self-Esteem and Forgiveness were negatively related. All slopes had the expected signs. Overall, Blame Externalization was predictable from this set of predictors, and all significantly increased the R^2 when they entered the regression formula. The significant variables with their respective *t* ratios, beta coefficients, and effect sizes for the final regression step for Blame Externalization in Group A are presented in Table 20.

Table 20

Summary of Final Step-Wise Regression Step for Blame Externalization in Group A

BE						
Predictors		B	β	sr^2	R^2	*t*
Step 3	Anxiety	0.24**	0.20**	0.04**	0.08**	2.77**
	Social Self-Esteem	-0.21***	-0.24***	0.05***	0.15***	-3.29***
	Forgiveness	-0.15*	-0.16*	0.02*	0.17***	-2.08*

Note: BE = Blame Externalization

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

In Step 1 of the equation predicting Carefree Nonplanfulness, Organization was statistically significant, $t(174) = -2.53, p < .01$. Diligence significantly increased R^2 when it was entered in Step 2. In Step 2, $t(173) = -4.47, p < .001$. Prudence significantly increased R^2 when it was entered in Step 3. In Step 3, $t(172) = -3.64, p < .001$. Organization, Diligence, and Prudence were negatively related to Carefree Nonplanfulness, and all slopes had the expected signs. Overall, Carefree Nonplanfulness was predictable from this set of predictors, and all significantly increased the R^2 when they entered the regression formula. The significant variables with their respective *t* ratios, beta coefficients, and effect sizes for the final regression step for Carefree Nonplanfulness in Group A are presented in Table 21.

Table 21

Summary of Final Step-Wise Regression Step for Carefree Nonplanfulness in Group A

CN						
Predictors		B	β	sr^2	R^2	*t*
Step 3	Organization	-0.22*	-0.18*	0.03*	0.17*	-2.53*
	Diligence	-0.37***	-0.31***	0.08***	0.29***	-4.47***
	Prudence	-0.32***	-0.26***	0.05***	0.34***	-3.64***

Note: CN = Carefree Nonplanfulness
*$p < .05$, **$p < .01$, ***$p < .001$

In Step 1 of the equation predicting Social Influence, Greed Avoidance was statistically significant, $t(174) = -2.46, p < .01$. Social Boldness significantly increased R^2 when it was entered in Step 2. In Step 2, $t(173) = 9.56, p < .001$. Sociability significantly increased R^2 when it was entered in Step 3. In Step 3, $t(172) = 3.42, p < .001$. Liveliness significantly increased R^2 when it was entered in Step 4. In Step 4, $t(171) = 2.93, p < .004$. Greed Avoidance, Social Boldness, Sociability, and Liveliness were negatively

related to Social Influence, and all slopes had the expected signs. Overall, Social Influence was predictable from this set of predictors, and all significantly increased the R^2 when they entered the regression formula. The significant variables with their respective *t* ratios, beta coefficients, and effect sizes for the final regression step for Social Influence in Group A are presented in Table 22.

Table 22

Summary of Final Step-Wise Regression Step for Social Influence in Group A

SOI						
Predictors		B	β	sr^2	R^2	*t*
Step 4	Greed Avoidance	-0.14*	-0.12*	0.01*	0.09*	-2.46*
	Social Boldness	0.55***	0.52***	0.19***	0.56***	9.56***
	Sociability	0.20***	0.22***	0.03***	0.62***	3.42***
	Liveliness	0.17**	0.17**	0.02**	0.64**	2.93**

Note: SOI = Social Influence

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

The Fearlessness scale was predicted by Fearfulness. The scatter plot between the two scales revealed a negative and linear relationship. The relationship was significant and the R^2 was .14. Overall, Fearlessness was predictable from fearfulness. The significant variables with their respective *t* ratios, beta coefficients, and effect sizes for the final regression step for Fearlessness in Group A are presented in Table 23.

Table 23

Summary of Final Step-Wise Regression Step for Fearlessness in Group A

F						
Predictors		B	β	sr^2	R^2	*t*
Step 1	Fearfulness	-0.44***	-0.37***	0.14***	0.14***	-5.22***

Note: F = Fearlessness

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

In Step 1 of the equation predicting Stress Immunity, Fearfulness was statistically significant, $t(174) = -4.59, p < .001$. Anxiety significantly increased R^2 when it was entered in Step 2. In Step 2, $t(173) = -3.78, p < .001$. Social Self-Esteem significantly increased R^2 when it was entered in Step 3. In Step 3, $t(172) = 2.18, p < .03$. Liveliness significantly increased R^2 when it was entered in Step 4. In Step 4, $t(171) = 2.94, p < .004$. Patience significantly increased R^2 when it was entered in Step 5. In Step 5, $t(170) = 3.31, p < .001$. Fearfulness and Anxiety were negatively related to Stress Immunity, while Social Self-Esteem, Liveliness, and Patience were positively related. All slopes had the expected signs. Overall, Stress Immunity was predictable from this set of predictors, and all significantly increased the R^2 when they entered the regression formula. The significant variables with their respective *t* ratios, beta coefficients, and effect sizes for the final regression step for Stress Immunity in Group A are presented in Table 24.

Table 24

Summary of Final Step-Wise Regression Step for Stress Immunity in Group A

STI						
Predictors		B	β	sr^2	R^2	*t*
Step 5	Fearfulness	-0.29***	-0.29***	0.07***	0.14***	-4.59***
	Anxiety	-0.30***	-0.25***	0.05***	0.27***	-3.78***
	Social Self-Esteem	0.14*	0.16*	0.02*	0.37*	2.18*
	Liveliness	0.21**	0.22**	0.03**	0.40**	2.94**
	Patience	0.18***	0.20***	0.04***	0.44***	3.31***

Note: STI = Stress Immunity

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

In Step 1 of the equation predicting Coldheartedness, Fairness was statistically significant, $t(174) = -2.80, p < .006$. Modesty significantly increased R^2 when it was entered in Step 2. In Step 2, $t(173) = -1.99, p < .05$. Sentimentality significantly increased

R^2 when it was entered in Step 3. In Step 3, $t(172) = -4.74$, $p < .001$. Gentleness significantly increased R^2 when it was entered in Step 4. In Step 4, $t(171) = -2.57$, $p < .01$. Altruism significantly increased R^2 when it was entered in Step 5. In Step 5, $t(170) = -2.83$, $p < .005$. Fairness, Modesty, Sentimentality, Gentleness, and Altruism were negatively related to Coldheartedness and all slopes had the expected signs. Overall, Coldheartedness was predictable from this set of predictors, and all significantly increased the R^2 when they entered the regression formula. The significant variables with their respective *t* ratios, beta coefficients, and effect sizes for the final regression step for Coldheartedness in Group A are presented in Table 25.

Table 25

Summary of Final Step-Wise Regression Step for Coldheartedness in Group A

C						
Predictors		B	β	sr^2	R^2	*t*
Step 5	Fairness	-0.29**	-0.19**	0.03**	0.19**	-2.80**
	Modesty	-0.17*	-0.12*	0.01*	0.24*	-1.99*
	Sentimentality	-0.43***	-0.31***	0.08***	0.36***	-4.74***
	Gentleness	-0.23**	-0.16**	0.02**	0.40**	-2.57**
	Altruism	-0.24**	-0.20**	0.03**	0.42**	-2.83**

Note: C = Coldheartedness

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

Validation of Predictor Formulas on Group B

Based on the information from the final step in the step-wise regressions, eight predictive regression formulas were created and cross-validated with data from Group B. The regression formulas are as follows:

1. MEp = 108 – (.40)(Sincerity) – (.23)(Fairness) – (.26)(Greed Avoidance) – (.14)(Forgiveness)

2. RNp = 66 – (.23)(Fairness) – (.24)(Prudence) + (.31)(Unconventionality)
3. BEp = 63 + (.24)(Anxiety) – (.21)(Social Self-Esteem) – (.15)(Forgiveness)
4. CNp = 101 – (.22)(Organization) – (.37)(Diligence) – (.32)(Prudence)
5. SOIp = 11 – (.14)(Greed Avoidance) + (.55)(Social Boldness) + (.20)(Sociability) + (.17)(Liveliness)
6. Fp = 77 – (.44)(Fearfulness)
7. STIp = 47 – (.29)(Fearfulness) – (.30)(Anxiety) + (.14)(Social Self-Esteem) + (.21)(Liveliness) + (.18)(Patience)
8. Cp = 119 – (.29)(Fairness) – (.17)(Modesty) – (.43)(Sentimentality) – (.23)(Gentleness) – (.24)(Altruism)

The data from Group B were entered into the formulas and a predicted value was derived. Unsurprisingly, all the relationships between the predicted and actual values in Group B were statistically significant. However, when the data from the inmate sample were entered into the regression formulas, the results differed. In the inmate sample, only the relationships between the predicted and actual values of Blame Externalization (r = .26, p < .03), Social Influence (r = .33, p < .007), and Stress Immunity (r = .33, p < .007) were statistically significant. The correlations between the actual and predicted values in the Group B and inmate populations are listed in Table 26.

Table 26

Correlations Between Actual and Predicted Scores in the Group B and Inmate Populations

Group B Student Sample	*r*
ME actual vs. predicted	.59***
RN actual vs. predicted	.47***
BE actual vs. predicted	.45***
CN actual vs. predicted	.64***
SOI actual vs. predicted	.78***
F actual vs. predicted	.39***
STI actual vs. predicted	.66***
C actual vs. predicted	.57***
Inmate Sample	***r***
ME actual vs. predicted	.23
RN actual vs. predicted	.28
BE actual vs. predicted	.26*
CN actual vs. predicted	-.10
SOI actual vs. predicted	.33**
F actual vs. predicted	.14
STI actual vs. predicted	.33**
C actual vs. predicted	.01

Note: ME = Machiavellian Egocentricity, RN = Rebellious Nonconformity, BE = Blame Externalization, CN = Carefree Nonplanfulness, SOI = Social Influence, F = Fearlessness, STI = Stress Immunity, C = Coldheartedness

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

Cross Validation of Predictor Formulas on Rehabilitation Facility Sample

The relationships between the PPI-R scales and the DAPP-SF Dissocial Behavior Index scales in the total student sample and the inmate sample were examined. The Narcissism scale in the Dissocial Behavior Index was related with all of the PPI-R scales in the student sample, while Carefree Nonplanfulness, Coldheartedness, and Narcissism did not have a significant relationship with the PPI-R facets in the inmate sample. Machiavellian Egocentricity in the inmate sample was moderately related to Callousness ($r = .42$) and Conduct Problems ($r = .59$) from the Dissocial Index. The correlations

between the PPI-R scales and the Dissocial Behavior Index for the student and inmate population are presented in Table 27.

Table 27

Correlations Between PPI-R Scales and the Dissocial Behavior Index Scales for the Student and Inmate Groups

	Dissocial Behavior Index Scales				
PPI-R Scales	Nar	SS	Rej	CP	Call
Student Sample					
Machiavellian Egocentricity	.49***	.43***	.40***	.52***	.69***
Rebellious Nonconformity	.31***	.57***	.21***	.45***	.40***
Blame Externalization	.30***	.29***	.28***	.41***	.42***
Carefree Nonplanfulness	.08	.34***	.02	.50***	.34***
Social Influence	.30***	.26***	.32***	.05	.13*
Fearlessness	.13*	.63***	.14**	.24***	.17**
Stress Immunity	-.20***	.06	-.03	-.06	-.10
Coldheartedness	-.05	.10	.05	.36***	.37***
Inmate Sample					
Machiavellian Egocentricity	.05	.37**	.31**	.59***	.42***
Rebellious Nonconformity	-.07	.23	.32**	.47***	.36**
Blame Externalization	.17	.38**	.26*	.48***	.44***
Carefree Nonplanfulness	-.00	.17	.37**	.22	.37**
Social Influence	.03	.15	-.08	.27*	.01
Fearlessness	-.20	-.22	-.04	.07	-.15
Stress Immunity	-.14	-.36**	-.51***	-.37**	-.52***
Coldheartedness	-.07	.02	-.02	.03	.11

Note: Nar = Narcissism, SS = Stimulus Seeking, Rej = Rejection, CP = Conduct Problems, Call = Callousness

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

Using the substance abuse rehabilitation facility sample, the predicted values of for the PPI-R scales were determined using the regression equations. The correlations from the substance abuse rehabilitation facility sample appeared to be similar to those found in the student sample. For example, Machiavellian Egocentricity, Rebellious Nonconformity, and Blame Externalization were significant predictors of every scale

within the Dissocial Index. Each of the PPI-R scales predicted at least one of the scales within the Dissocial Index. The correlations between the predicted values and the Dissocial Index scales are presented in Table 28.

Table 28

Correlations Between Predicted PPI-R Scales and DAPP-SF Dissocial Index Scales in the Rehab Sample

	Dissocial Index				
PPI-R Predicted Values	Narc	SS	Rej	CP	Call
Machiavellian Egocentricity	.53***	.38***	.29***	.33***	.53***
Rebellious Nonconformity	.38***	.53***	.21***	.44***	.41***
Blame Externalization	.30***	.28***	.16**	.32***	.39***
Carefree Nonplanfulness	.23***	.46***	-.03	.37***	.31***
Social Influence	.04	-.08	.28***	-.18**	-.14*
Fearlessness	.17**	.27***	.22***	.10	.03
Stress Immunity	-.17**	-.15*	-.08	-.27***	-.32***
Coldheartedness	.20**	.26***	.30***	.30***	.44***

Note: Nar = Narcissism, SS = Stimulus Seeking, Rej = Rejection, CP = Conduct Problems, Call = Callousness

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

CHAPTER FOUR

DISCUSSION

This study identified traits of "normal personality" that could be used to identify psychopathy. An examination of the relationship between the facets in the HEXACO model of personality, a six-factor structure of normal personality, and the PPI-R, a widely-used and valid measure of psychopathic personality traits was conducted. The majority of the correlations, with the exception of some of those in the inmate sample, followed the hypothesized predictions.

The correlations between the four facets of the Honesty-Humility domain and the PPI-R scales were negative in the student samples, upholding the first hypothesis. However, the first hypothesis was only partially upheld in the inmate sample Greed Avoidance was positively correlated with Fearlessness. Hypothesis two was supported by the student samples, but unsupported by the inmate sample; hypothesis three was supported by the student samples, but unsupported by the inamte sample; hypothesis four was upheld by the student samples, but unsupported by the inmate sample; and hypothesis five was supported by the student samples, but unsupported by the inmates sample. Regarding hypothesis six, the predictor equations were effective in predicting the PPI-R subscales in the student samples, but not in the inmate samples. Also, the formulas predicted the Dissocial Index scales in the substance abuse rehabilitation facility sample, supporting the sixth hypothesis.

The regression formulas developed from the Group A sample data were used to assess the personality profile's ability to predict the PPI-R scales for the Group B and inmate samples. As seen in the regression equations, a number of HEXACO facets were able to predict the eight PPI-R scales. Nineteen HEXACO facets, including the Altruism interstitial scale, were significant predictors of characteristics of psychopathy as conceptualized by the PPI-R. Of the HEXACO domains, the facets from the Honesty-Humility and Extraversion domains were used most often in the equations, followed by the facets Conscientiousness domains.

Consistent with Lee and Ashton's (2005) research on Machiavellianism and psychopathy, all four facets within the Honesty-Humility domain were the most important facets in predicting characteristics of psychopathy. Sincerity, Fairness, and Greed Avoidance were three of the four predictor facets of Machiavellian Egocentricity.

Further, these facets contributed to the prediction of Rebellious Nonconformity, Social Influence, and Coldheartedness. Lee and Ashton (2004) characterized the Honesty-Humility domain as positive, which was consistent with the findings of the current study as the facets from this domain generally possessed negative relationships with their PPI-R scale counterparts.

The facets from the Extraversion and Conscientiousness domain strongly predicted two of the PPI-R scales. Social Boldness, Sociability, and Liveliness, facets from the Extraversion domain, predicted the Social Influence scale, consistent with the conclusions of many researchers that psychopathic individuals are highly charismatic and manipulative (Cleckley, 1941; Hare & Neumann, 2008; Karpman, 1949). Further, Organization, Diligence, and Prudence, facets from the Conscientiousness domain were

predictors of Carefree Nonplanfulness. Lilienfeld and Widows (2005) used this scale to capture the impulsive and indifferent nature of psychopathic individuals, opposite of how Conscientiousness is characterized (Costa & McCrae, 1990; Lee & Ashton, 2004).

Regarding the PPI-R scales, it appears that Social Influence, Stress Immunity, Coldheartedness, and Machiavellian Egocentricity are more effectively predicted than were the other scales. Social Influence, Stress Immunity, and Coldheartedness were each predicted by five HEXACO facets, while Machiavellian Egocentricity was predicted by four facets. Conceptually, the facets that predict these four scales are able to identify possible psychopathic individuals. Three or fewer facets predicted the remaining PPI-R scales. Each of the PPI-R scales were predicted to some degree, but the number of facet predictors of Machiavellian Egocentricity, Social Influence, Stress Immunity, and Coldheartedness are greater than found in the other scales making them more powerful and important when using the HEXACO to identify such individuals. These regressions further solidify the hypotheses that the HEXACO facets are able to predict psychopathy.

The correlations between the PPI-R scales and the DAPP-SF Dissocial Behavior Index were examined. Although the Dissocial Index was not developed to be a measure of psychopathy per se, it contains scales that measure characteristics commonly seen in APD and psychopathy (Bagge & Trull, 2003) such as Narcissism, Callousness, Stimulus Seeking, and Conduct Problems. Goldner and colleagues (1999) found that the Dissocial Index resolved into two factors. The first factor, they termed psychopathy, included the Rejection, Narcissism, and Callousness scales. Bagge and Trull's research was similar to Goldner and colleagues' findings in that Rejection, Narcissism, and Callousness, in addition to Stimulus Seeking, were related to Antisocial Personality Disorder.

The study found numerous correlations between the PPI-R and the Dissocial Behavior Index in both the total student and inmate populations. In the student sample, all of the PPI-R scales were related to most of the scales within the Dissocial Index. These correlations differed greatly in the inmate sample. Machiavellian Egocentricity maintained the most relationships and only failed to correlate with Narcissism. Comparatively, these results support the earlier findings of Goldner and colleagues (1999) and Bagge and Trull (2008) in that Rejection, Callousness, and Stimulus Seeking are related to Machiavellian Egocentricity across both groups. This offers evidence that a conceptual link exists between the PPI-R and Dissocial Index, demonstrating the value of the scales in the Dissocial Index as validation variables. Inadvertently, the relationship provides additional evidence that the Dissocial Index is a moderately strong predictor of psychopathy in its own right, even though that was not Livesley's (1998) intent when he designed the scale.

All of the correlations between the predicted and actual PPI-R values were significant in the student sample. However, in the inmate sample, the only correlations between predicted and actual values were with Blame Externalization, Social Influence, and Stress Immunity. This is likely an artifact of range restriction and consistency among responses observed in the PPI-R data in the inmate sample. Some variance is to be expected. There were more correlations found between the predicted and actual PPI-R values in the substance abuse rehabilitation facility sample than were found within the student sample. Across all three samples, Machiavellian Egocentricity possessed more of the significant relationships than the other PPI-R scales, providing further support that those facets within the Honesty-Humility domain are the most useful predictors of

psychopathy. The pattern established by these 21 facets and Altruism in a personality profile must be examined carefully, as there is a strong possibility that such an individual is psychopathic.

In conclusion, the data from the current study were consistent with the established literature and the proposed hypotheses (Lee & Ashton, 2005; Lee, Ashton, & De Vries, 2005; Lee et al., 2008). The first five of the hypotheses were supported by the data from the student sample groups in the current study. The inmate sample was largely inconsistent with established research and the hypotheses. The sixth hypothesis was supported by the step-wise regressions and the cross-validation methodology used with the Group B sample and the substance abuse rehabilitation facility sample. Although the inmate sample did support the sixth hypothesis, the initial correlations were inconsistent which made the resulting regression equations inaccurate.

Implications

This study demonstrates a cost-effective and efficient method in identifying psychopathic individuals. Psychopathological tests, such as the MMPI-2 and the PAI can be cumbersome and expensive to administer to inmates entering prisons. Measures of normal personality are often much shorter. For example, the MMPI-2 contains 567 items (Butcher, Dahlstrom, Graham, Tellegen, & Kreammer, 1989) and takes approximately two hours to complete. The HEXACO-PI-R version used in this study has 100 items and can be completed in approximately 30 minutes. Considering the findings of this study and the results of a study conducted by Lee and Ashton (2005), the facets of the Honesty-Humility domain provided the best predictability of all the facets in the HEXACO. It may

be possible to limit the assessment size to those items measuring the Honesty-Humility facets, thereby further decreasing administration time.

Identification of psychopathic individuals would aid corrections personnel in determining how to classify such individuals. Hare (1999) commented that psychopathic individuals are difficult to treat and often attempt to sabotage ongoing group treatments as a sort of game. Several other clinicians support this claim that psychopathic individuals are untreatable (Cleckley, 1941; Lykken, 1957; Millon et al., 1998). However, a few studies have demonstrated success in treating psycopaths develop or learn appropriate social behaviors or rebuild social connections (Caldwell & Van Rybroek, 2001). As was found in this study, the HEXACO can provide a cost-effective and manageable method for identifying such individuals, aid in classification, and provide other professionals with necessary information regarding care and treatment options.

The HEXACO could also be used to identify psychopathic characteristics in individuals as part of a pre-occupation screening assessment. Many agencies perform personality assessments prior to offering job candidates a position (Dawkins, Ostrov, Dawkins, & Cavanaugh, 1997; Goffin, Jang, & Skinner, 2011; Schermer, Carswell, & Jackson, 2012). The use of an instrument that measures normal personality rather than one that assesses psychopathology may be of more utility. Instruments such as the Myers-Briggs Type Indicator (MBTI) have been used for years in personnel selection to assess person-job fitness (Baehr, 1987). The HEXACO could be employed in this capacity as well, serving a dual role: assessing job fit as well as examining psychopathology.

Future Research

It might be helpful if future research in this area included larger and more varied samples. The current study used only a small inmate sample, which proved to be extremely limiting. A larger and more varied sample of inmates and prisoners would enable the use of different statistics, such as IRT, that could enable the evaluation of assessment items and possibly shorten the measure. Relevant items could be identified through IRT and comprise the final measure. Hypothetically, a five-item measure is entirely possible (Embretson & Reise, 2000).

Many other variables could be studied in psychopathic individuals. Gender effects, effects of incarceration, types of programs available during incarceration are just a few. More research examining these mediating effects of these variables on personality characteristics would be interesting. As seen in this study, personality facets only explained a portion of the variance in the psychopathic characteristic. Other variables are not only related to psychopathy, such as criminal behaviors (Cleckley, 1941), but are likely able to aid in predicting psychopathy.

Another important area to consider concerns a psychopathic individual's capacity to respond in a social desirable manner. Self-report measures are popular because of their ease of administration. However, a hazard of self-report measures is the ability of the individual to be less than honest in their responses. Many reliable and valid measures contain validity scales that measure honesty in responding. The PPI-R contained an inconsistency scale and a deviant responding scale; however, high levels on these scales do not eliminate the possibility of psychopathy (Lilienfeld & Widows, 2005).

Psychopathic individuals are not known to be particularly honest. Additional research could examine this troubling conundrum.

Other studies could be conducted to further explore the identification of psychopathology through measures of normal personality. The new alternative diagnostic method presented in the DSM-5 offers such an opportunity. Other instruments measuring normal personality could be utilized as well.

Limitations

Several limitations of this research are noteworthy. Participants of this study, though diverse, were not representative of the general population. Although, not examined, it is plausible that there were dramatically different levels of education between the student group and the inmate group and even when compared to members of the general population. Further, there were likely large differences in the IQ levels between the student, inmate, and the substance abuse rehabilitation facility samples. Caucasians were overrepresented in the student sample, while African Americans were overrepresented represented in the inmate sample. In addition, college students from universities in southern U. S. may not be like other college students in other areas of the country, or those not in colleges. The results from this study cannot be generalized across populations.

The self-report nature of the instruments was problematic. It would be particularly easy for participants to embellish, misrepresent, or make an error that resulted in erroneous data despite validity scales designed to detect such phenomena. Honesty in responding has been a historical issue with self-reports and is exacerbated by a psychopathic individual's manipulative and deceitful nature.

Effect sizes were relatively small, and are likely the result of the small sample sizes. Less than 400 students participated and less than 70 inmates participated. However, the small effect sizes do not diminish the significance of the study because the effect size could have been greater if the study were not limited to students and those inmates found at a southern parish jail.

Limitations due to internal problems in the student and inmate samples were identified. There appeared to be significant range differences between student groups and the inmate group in the PPI-R after inspecting the means and standard deviations of both groups. As seen in Tables 6 and 10, the means for both student groups were between 48 and 56 while the standard deviations were between 8 and 12. Table 14 shows the means for the inmates were between 47 and 84 while the standard deviations were between 10 and 14. There appeared to be consistency between the student population and the established norms in the literature. This implies that problems exist within the inmate data. Several inmates reported an extremely high number of arrests and a large number of years incarcerated, which caused the data for arrests and incarcerations to be skewed. Range restriction, the self-report structure of the measures, and possible inflated social desirability in the inmate sample could explain much of the dramatic differences observed in the data between the student groups and the inmate group.

There appeared to be numerous differences in the means, standard deviations, and correlations of the HEXACO data between both of the student groups and the inmate group. Generally, the means of the HEXACO scales in the student groups were close to 50 and never exceeded 55; however, several of the means in the inmate sample were 60 or above. Standard deviations in the student groups ranged from 7.23 to 11.42, while

standard deviations in the inmate group ranged between 2.98 to 13.61. Further, consistency in responding may have also been an issue in the inmate sample.

Additionally, only correlations of $p < .001$ were used in the regression equations. This was an extremely conservative approach and did not consider the other variables of lesser significance to be examined as predictors. It was felt that it would be better to err on the side of caution and examine variable that offered the strongest obvious relevance.

Within the inmate sample, individuals who were arrested were considered similarly as those who were convicted. It was possible for the participants from a southern parish jail to be awaiting trial and not have a conviction for any crime, have a single conviction for a nonviolent crime, multiple convictions for nonviolent crimes, and similar convictions for violent crimes. The sample size for the inmates was simple too small to consider these variables of which could have explained the variability in responses in that population.

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APPENDIX A

HUMAN USE COMMITTEE APPROVAL FORM

LOUISIANA TECH
UNIVERSITY

MEMORANDUM

OFFICE OF UNIVERSITY RESEARCH

TO: Mr. M. Todd Lobrano, Dr. Tony Young, Dr. Walter Buboltz, Dr. Frank Igou and Dr. Jeff Lawley

FROM: Barbara Talbot, University Research

SUBJECT: HUMAN USE COMMITTEE REVIEW

DATE: April 17, 2012

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:

"Psychopathy and the HEXACO Model of Personality"

HUC 952
Approval to begin Caddo Correctional Center and La. Tech Students

The proposed study's revised procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Informed consent is a critical part of the research process. The subjects must be informed that their participation is voluntary. It is important that consent materials be presented in a language understandable to every participant. If you have participants in your study whose first language is not English, be sure that informed consent materials are adequately explained or translated. Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

Projects should be renewed annually. ***This approval was finalized on April 17, 2012 and this project will need to receive a continuation review by the IRB if the project, including data analysis, continues beyond April 17, 2013.*** Any discrepancies in procedure or changes that have been made including approved changes should be noted in the review application. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of University Research.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Research or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.

If you have any questions, please contact Dr. Mary Livingston at 257-4315.

LOUISIANA TECH
UNIVERSITY

MEMORANDUM

OFFICE OF UNIVERSITY RESEARCH

TO: Mr. M. Todd Lobrano, Dr. Tony Young, Dr.Walter Buboltz
Dr. Frank Igou and Dr. Jeff Lawley

FROM: Barbara Talbot, University Research

SUBJECT: HUMAN USE COMMITTEE REVIEW

DATE: April 20, 2012

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:

"Psychopathy and the HEXACO Model of Personality"
Approval to begin Palmetto Addiction Recovery Center

HUC 952

The proposed study's revised procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Informed consent is a critical part of the research process. The subjects must be informed that their participation is voluntary. It is important that consent materials be presented in a language understandable to every participant. If you have participants in your study whose first language is not English, be sure that informed consent materials are adequately explained or translated. Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

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If you have any questions, please contact Dr. Mary Livingston at 257-4315.

APPENDIX B

STUDENT DEMOGRAPHIC QUESTIONNAIRE

Please answer the following questions about yourself as honestly as possible

How old are you?

☐

What is your relationship status

☐ Single

☐ Married

What is your gender?

☐ Male ☐ Female

Do you have children?

☐ Yes

☐ No

If Yes, how many?

☐

What is your ethnicity?

☐ African Americ

☐ Caucasian

☐ Asian

☐ Hispanic

☐ Other

What is your grade classificatio

☐ Freshman

☐ Sophomore

☐ Junior

☐ Senior

What is your approximate grade point avera

☐

Do you work in addition to school?

☐ Yes

☐ No

Have you ever received psychological services (e. g. counseling, testing, etc.)?

- ☐ Yes
- ☐ No

Have you ever been diagnosed with a psychological disorder?

- ☐ Yes
- ☐ No

Have you ever been arrested?

- ☐ Yes
- ☐ No

If Yes, how many time:

☐

Have you ever been in jail?

- ☐ Yes
- ☐ No

If Yes, how long in tot:

☐

Have you ever served time in prison?

- ☐ Yes
- ☐ No

If Yes, How long was your sentenc

☐

Are you currently, or have you ever been, on disciplinary probation during school?

- ☐ Yes
- ☐ No

APPENDIX C

INMATE DEMOGRAPHIC QUESTIONNAIRE

Please answer the following questions about yourself as honestly as possible

How old are you? ☐

What is your gender?

☐ Male ☐ Female

What is your relationship status?

☐ Single
☐ Married

What is your ethnicity?

☐ African American
☐ Caucasian
☐ Asian
☐ Hispanic
☐ Other

Do you have children?

☐ Yes
☐ No

If Yes, how many? ☐

Have you ever received psychological services (e. g. counseling, testing, etc.)?

☐ Yes
☐ No

Have you ever been diagnosed with a psychological disorder?

☐ Yes
☐ No

How many times have you been arrested? ☐

Have you been in jail before now?

☐ Yes
☐ No

If Yes, how long in total? ☐

Have you ever served time in prison?

☐ Yes
☐ No

If Yes, How long was your sentence? ☐

Have you received any write-ups while in jail or prison?

☐ Yes
☐ No

If Yes, how many of those write-ups were you punished for? ☐

APPENDIX D

HEXACO PI-R

HEXACO-PI-R

(SELF REPORT FORM)

© Kibeom Lee, Ph.D., & Michael C. Ashton, Ph.D.

DIRECTIONS

On the following pages you will find a series of statements about you. Please read each statement and decide how much you agree or disagree with that statement. Then write your response in the space next to the statement using the following scale:

5 = strongly agree
4 = agree
3 = neutral (neither agree nor disagree)
2 = disagree
1 = strongly disagree

Please answer every statement, even if you are not completely sure of your response.

Please provide the following information about yourself.

1 ____ I would be quite bored by a visit to an art gallery.

2 ____ I clean my office or home quite frequently.

3 ____ I rarely hold a grudge, even against people who have badly wronged me.

4 ____ I feel reasonably satisfied with myself overall.

5 ____ I would feel afraid if I had to travel in bad weather conditions.

6 ____ If I want something from a person I dislike, I will act very nicely toward that person in order to get it.

7 ____ I'm interested in learning about the history and politics of other countries.

8 ____ When working, I often set ambitious goals for myself.

9 ____ People sometimes tell me that I am too critical of others.

10 ____ I rarely express my opinions in group meetings.

11 ____ I sometimes can't help worrying about little things.

12 ____ If I knew that I could never get caught, I would be willing to steal a million dollars.

13 ____ I would like a job that requires following a routine rather than being creative.

14 ____ I often check my work over repeatedly to find any mistakes.

15 ____ People sometimes tell me that I'm too stubborn.

16 ____ I avoid making "small talk" with people.

17 ____ When I suffer from a painful experience, I need someone to make me feel comfortable.

18 ____ Having a lot of money is not especially important to me.

19 ____ I think that paying attention to radical ideas is a waste of time.

20 ____ I make decisions based on the feeling of the moment rather than on careful thought.

21 ____ People think of me as someone who has a quick temper.

22 ____ I am energetic nearly all the time.

23 ____ I feel like crying when I see other people crying.

24 ____ I am an ordinary person who is no better than others.

25 ____ I wouldn't spend my time reading a book of poetry.

26 ____ I plan ahead and organize things, to avoid scrambling at the last minute.

27 ____ My attitude toward people who have treated me badly is "forgive and forget".

28 ____ I think that most people like some aspects of my personality.

29 ____ I don't mind doing jobs that involve dangerous work.

30 ____ I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.

31 _____ I enjoy looking at maps of different places.

32 _____ I often push myself very hard when trying to achieve a goal.

33 _____ I generally accept people's faults without complaining about them.

34 _____ In social situations, I'm usually the one who makes the first move.

35 _____ I worry a lot less than most people do.

36 _____ I would be tempted to buy stolen property if I were financially tight.

37 _____ I would enjoy creating a work of art, such as a novel, a song, or a painting.

38 _____ When working on something, I don't pay much attention to small details.

39 _____ I am usually quite flexible in my opinions when people disagree with me.

40 _____ I enjoy having lots of people around to talk with.

41 _____ I can handle difficult situations without needing emotional support from anyone else.

42 _____ I would like to live in a very expensive, high-class neighborhood.

43 _____ I like people who have unconventional views.

44 _____ I make a lot of mistakes because I don't think before I act.

45 _____ I rarely feel anger, even when people treat me quite badly.

46 _____ On most days, I feel cheerful and optimistic.

47 _____ When someone I know well is unhappy, I can almost feel that person's pain myself.

48 _____ I wouldn't want people to treat me as though I were superior to them.

49 _____ If I had the opportunity, I would like to attend a classical music concert.

50 _____ People often joke with me about the messiness of my room or desk.

51 _____ If someone has cheated me once, I will always feel suspicious of that person.

52 _____ I feel that I am an unpopular person.

53 _____ When it comes to physical danger, I am very fearful.

54 _____ If I want something from someone, I will laugh at that person's worst jokes.

55 _____ I would be very bored by a book about the history of science and technology.

56 _____ Often when I set a goal, I end up quitting without having reached it.

57 _____ I tend to be lenient in judging other people.

58 _____ When I'm in a group of people, I'm often the one who speaks on behalf of the group.

59 _____ I rarely, if ever, have trouble sleeping due to stress or anxiety.

60 _____ I would never accept a bribe, even if it were very large.

61 _____ People have often told me that I have a good imagination.

62 _____ I always try to be accurate in my work, even at the expense of time.

63 _____ When people tell me that I'm wrong, my first reaction is to argue with them.

64 _____ I prefer jobs that involve active social interaction to those that involve working alone.

65 _____ Whenever I feel worried about something, I want to share my concern with another person.

66 _____ I would like to be seen driving around in a very expensive car.

67 _____ I think of myself as a somewhat eccentric person.

68 _____ I don't allow my impulses to govern my behavior.

69 _____ Most people tend to get angry more quickly than I do.

70 _____ People often tell me that I should try to cheer up.

71 _____ I feel strong emotions when someone close to me is going away for a long time.

72 _____ I think that I am entitled to more respect than the average person is.

73 _____ Sometimes I like to just watch the wind as it blows through the trees.

74 _____ When working, I sometimes have difficulties due to being disorganized.

75 _____ I find it hard to fully forgive someone who has done something mean to me.

76 _____ I sometimes feel that I am a worthless person.

77 _____ Even in an emergency I wouldn't feel like panicking.

78 _____ I wouldn't pretend to like someone just to get that person to do favors for me.

79 _____ I've never really enjoyed looking through an encyclopedia.

80 _____ I do only the minimum amount of work needed to get by.

81 _____ Even when people make a lot of mistakes, I rarely say anything negative.

82 _____ I tend to feel quite self-conscious when speaking in front of a group of people.

83 _____ I get very anxious when waiting to hear about an important decision.

84 _____ I'd be tempted to use counterfeit money, if I were sure I could get away with it.

85 _____ I don't think of myself as the artistic or creative type.

86 _____ People often call me a perfectionist.

87 _____ I find it hard to compromise with people when I really think I'm right.

88 _____ The first thing that I always do in a new place is to make friends.

89 _____ I rarely discuss my problems with other people.

90 _____ I would get a lot of pleasure from owning expensive luxury goods.

91 _____ I find it boring to discuss philosophy.

92 _____ I prefer to do whatever comes to mind, rather than stick to a plan.

93 _____ I find it hard to keep my temper when people insult me.

94 _____ Most people are more upbeat and dynamic than I generally am.

95 _____ I remain unemotional even in situations where most people get very sentimental.

96 _____ I want people to know that I am an important person of high status.

97 _____ I have sympathy for people who are less fortunate than I am.

98 _____ I try to give generously to those in need.

99 _____ It wouldn't bother me to harm someone I didn't like.

100 _____ People see me as a hard-hearted person.

APPENDIX E

DAPP-SF

Read each statement carefully and decide *how like or unlike* it is a description of you. Then mark the best choice that corresponds to your answer on this form. Use the answer choices provided below.

Very Unlike Me Mostly Unlike Me Neither Mostly Like Me Very Like Me

1. I often feel as if I am on an emotional roller-coaster
2. I have difficulty expressing affection for others
3. I have no difficulty telling others what to do
4. I sometimes wonder whether the things that go on around me are real or imaginary
5. I think that other people are always trying to cheat me
6. When I see things out of place, I have an almost uncontrollable urge to put them back
7. I don't feel very sure of myself when I am with other people
8. I am always on my guard against the actions of others
9. I consider my life to be dull
10. I watch out for little things that will prove my suspicions are right
11. Ending my life sometimes seems to be the only way out
12. I am only really satisfied when people acknowledge how good I am
13. I try to keep everything in its proper place
14. When people do something nice for me, I often wonder about their motives
15. At social events I tend to avoid people
16. Sex is not an important part of my life
17. I go along with what other people want even when it's not what I want
18. When I am very stressed I seem to lose touch with reality for a short time
19. I hesitate to express opinions that I think others will disagree with
20. My experiences are sometimes so strong they almost hurt
21. My problems always seem a little overwhelming
22. I really only feel safe when the person I am especially close to is right there beside me
23. I do everything thoroughly
24. I rarely share my problems with anyone
25. When I am very distressed the only thing I can think about is killing myself
26. My moods are very unpredictable
27. In any group of people, I worry that I will be shut out or rejected
28. I try to get other people to make my decisions for me
29. I'm upset when the person I am closest to is away for a few days
30. I tend to follow around the person I am especially attached to when I am worried
31. I try to get into positions of authority
32. I am not very well organized
33. My own welfare is more important than that of others
34. When things don't work out for me, ending my life seems be the only answer
35. I work very slowly on jobs I dislike
36. I pay close attention to what I do and say so that no one gets to know too much about me

37. The idea of doing something like skydiving appeals to me
38. Because I like to do things spontaneously, I have a hard time making plans
39. I need to be the center of attention
40. I have taken an overdose when I was very upset
41. If people make me angry I quickly smother my feelings
42. If there is something I have to do but really don't want to do, I put it off in the hope that I won't have to do it
43. I sometimes feel confused for several days at a time
44. It is important to me to be noticed by other people
45. I tend to put my own needs first in almost everything I do
46. I often do things on impulse even though I know I will regret it later
47. I feel happiest when all eyes are on me
48. I spend a lot of time talking about how much work I have to do without ever starting it
49. I don't often show my feelings
50. I have consumed so much alcohol at times that I could not remember what happened
51. I go over and over minor incidents in my mind
52. If I really need something, I don't mind using someone to get it
53. I am happiest when my time is carefully organized
54. Even when someone else is in charge, I have a difficult time not taking over
55. I spend a lot of time making sure that everything is exactly the way it should be
56. I know there are a lot of people out there waiting to trick me
57. I enjoy being sexually stimulated
58. I think you have to be ruthless to get on in life
59. I like to help people by correcting them
60. I almost always feel guilty about something
61. I doubt my ability to to the right thing without advice from other people
62. Intimate relationships are very important in my life
63. I imagine accomplishing greater things than anyone in the world
64. I do exhilarating things every chance I get
65. If people offer to help me, I become suspicious
66. Part of me craves the admiration of others
67. I enjoy close relationships
68. When I disagree with someone, I sometimes threaten them with violence
69. I spend hours trying to make everything as exact as possible
70. I like to flirt with danger
71. I continually search for thrills
72. I would do something against the law if I knew I would not get caught
73. I need people to reassure me that they think well of me
74. Familiar things sometimes seem "foggy" or far away to me
75. I find it hard to resist persuasive people
76. When things are a mess I have to tidy them up straight away
77. I often feel that people are out to get me
78. I have found different ways in which I can intentionally hurt myself
79. I am almost always emotional

80. I have to force myself to keep going when the person I am very attached to is away
81. I have always worried a lot about little things.
82. I fantasize about becoming a great success.
83. Little things change my emotions.
84. It doesn't bother me if my actions cause problems for someone else
85. I don't seem to have the drive to get things accomplished
86. I get great pleasure from making love
87. I try to make friends with people who can be useful
88. My moods change suddenly
89. I have been involved in several fights since my teenage years
90. As a child I started fires that damaged property
91. All my life I have been a worrier
92. I usually insist that my point of view is heard
93. I need intimate relationships
94. Sometimes I enjoy watching other people get embarrassed
95. I am not very good at being assertive with others
96. The very thought that the person I am closest to may leave me fills me with panic
97. As a child and young teenager, I often stole things
98. I let people walk all over me
99. I have always been a little irritable
100. There are days when I don't do anything at all because I can't seem to get going
101. I feel panicky when I am separated from those I love
102. I am too sensitive; I feel things very acutely
103. I am cautious about what to say about myself even among my closest friends
104. I like to do things very methodically
105. Others find it hard to tell what I'm feeling
106. It's more important to get what I want than to be sincere
107. I have taken things that were not mine
108. I often fail to get things done on time.
109. I find it difficult to turn to other people for help
110. In groups I tend to take the lead in organizing things
111. The world sometimes seems unreal to me
112. I feel contempt for people who are soft-hearted
113. I take chances that other people regard as foolhardy
114. People make me feel nervous
115. I brood a lot about my past mistakes
116. I feel unsure about my decisions until I check them out with others
117. I don't hesitate to point out when others are in the wrong
118. I worry that I will lose a sense of who I am
119. If there was no one in my life I would find myself wishing I had someone to be close to
120. The idea of suicide is always at the back of my mind
121. I often feel that I have very little to look forward to
122. When I look back on each day, I usually have to admit that I have not done much
123. When I was young, I deliberately damaged property that didn't belong to me

124. I often "forget" to do things that require a lot of effort
125. I argue a lot
126. I usually act first and think about the consequences later
127. I never know how to act when there are people around
128. I wish I were better at socializing
129. I like people to be afraid of me
130. When doing a task I don't want to, I get sidetracked easily
131. I feel there is hostility all around directed toward me
132. I often have moments when I feel very empty
133. Even when things appear to be going well, I know that they will change for the worse
134. I have sometimes felt that things were not really happening to me
135. I want to share my life with someone
136. I am unsure of what kind of person I really am

APPENDIX F

MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE

Read each of the following items and decide whether the statement is *true* or *false* as it pertains to you personally and mark T or F in the blank beside the statement to indicate this.

_____ 1. I sometimes feel resentful when I don't get my way.

_____ 2. On a few occasions, I have given up doing something because I thought too little of my ability.

_____ 3. There have been times when I felt like rebelling against people in authority even thought I knew they were right.

_____ 4. No matter who I'm talking to, I'm always a good listener.

_____ 5. I can remember "playing sick" to get out of something.

_____ 6. There have been occasions when I took advantage of someone.

7. I'm always willing to admit it when I make a mistake.

_____ 8. I sometimes try to get even, rather than forgive and forget.

9. I am always courteous, even to people who are disagreeable.

_____ 10. I have never been irked when people expressed ideas very different from my own.

_____ 11. There have been times when I was quite jealous of the good fortunes of others.

12. I am sometimes irritated by people who ask favors of me.

_____ 13. I have never deliberately said something that hurt someone's feelings.