

UNCOVERING THE STRUCTURE OF ANTAGONISM

by

Chelsea E. Sleep

(Under the direction of Joshua D. Miller)

ABSTRACT

Objective: Despite the advances in our understanding of the structure of personality and psychopathology (see Kotov et al., 2017), particularly regarding personality trait domains, less attention has been paid to empirically examining their underlying facet structure. In order to gain a more nuanced understanding of the structure of personality, it is important to identify empirically derived lower-order structures of these trait domains; thus, the present study seeks to develop a comprehensive structure of antagonism. *Method:* Participants will be recruited from the subject pool of a large, southeastern university and will complete 234 antagonism items selected from 7 measures of pathological personality traits. Criterion variables measuring interpersonal adjectives, aggression, substance use, depression, and anxiety will also be collected. *Results:* A series of factor analyses will be conducted to examine the factor structure of antagonism at a range of specificities. Factor scores from each factor solution and will be correlated across levels. The resulting factor solutions will also be correlated with collected antagonism measures and several criterion variables.

INDEX WORDS: Bass-ackwards, factor analysis, antagonism

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Chelsea E. Sleep

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M.S., Eastern Kentucky University, 2015

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Chelsea E. Sleep

Major Professor: Joshua D. Miller

Committee: W. Keith Campbell
Nathan T. Carter

Electronic Version Approved:

Ron Walcott
Vice Provost for Graduate Education and Dean of the Graduate School
The University of Georgia
August 2021

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CHAPTER 1

UNCOVERING THE STRUCTURE OF ANTAGONISM

Despite recent advances in our understanding of psychiatric nosology, historically, traditional taxonomies have considered mental disorders to be discrete categories. Among the well-documented limitations of traditional classification systems (see, Krueger et al., 2014; Skodol, 2012; Widiger & Clark, 2000; Widiger & Trull, 2007, for reviews) is the use of a rational approach to define psychiatric disorders, rather than empirically derived approaches. Specifically, this rational approach has resulted in inaccurate representations of psychopathology and often arbitrary categories, which is particularly problematic for personality psychopathology (Kotov et al., 2017).

In response to these limitations, a quantitative classification movement has emerged. Unlike traditional taxonomies, this approach seeks to empirically define psychopathology based on structural or factor analytic methods (Kotov et al., 2017). These models are particularly well-suited to examine the structure of personality, as there is a large consensus that personality can be organized hierarchically, which exists along two higher-order dimensions (i.e., alpha and beta; Digman, 1997), and is composed of domains at the top of the hierarchy and more specific behaviors at the bottom (DeYoung, Quilty, & Peterson, 2007; Smith, McCarthy, & Zapolski, 2009). Despite this consensus, concerns have been raised regarding how to optimally define the structure of personality based upon these analyses (Widiger & Simonsen, 2005; Widiger & Trull, 2007).

Structure of Personality

Although personality theories suggest that traits can be viewed on a continuum, spanning from adaptive or nonpathological to normal and then, at the opposite end of the spectrum, pathological, to date, the wealth of empirical work has focused on general or normal trait models. Regarding its structure, a plethora of empirical work supports our understanding of personality at the domain level, which consistently supports a five-factor solution (see Digman, 1990 for review): Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. General models of personality have greatly influenced our understanding of pathological personality traits, such that personality disorders (PDs) can be understood as maladaptive or extreme variants of the FFM (Widiger & Simonsen, 2005; Widiger & Trull, 2007). Although researchers sought to replace the current traditional nosology of personality disorder with a dimensional, trait model of personality psychopathology, these pathological models have varied in their structure. Despite these differences, pathological trait models generally agree on four dimensions which map onto the FFM and include, Neuroticism (versus Emotional Stability), Detachment/Introversion (versus Extraversion), Antagonism (versus Agreeableness), and Disinhibition (versus Conscientiousness; Widiger, Livesley, & Clark, 2009 as cited in Lynam & Miller, 2019). More recently, in the latest revision of the *DSM*, a hybridized, trait-based model of personality disorder was included. The trait portion (i.e., criterion B) of the Section III Alternative Model of Personality Disorder (AMPD) conceptualizes personality psychopathology along five broad domains: Negative Affectivity (versus Emotional Stability), Detachment (Versus Extraversion), Antagonism (versus Agreeableness), Disinhibition (versus Conscientiousness), and Psychoticism (versus Lucidity), which are underlaid by 25 lower-order traits (Krueger & Markon, 2014).

Personality's fundamental and potentially organizing role in psychopathology not limited to personality disorders has also become more salient of late. For instance, at the most

fundamental level, Kotov and colleagues (2017) propose that all mental disorders can be found on six spectra: Internalizing (e.g., depression, anxiety, PTSD), Thought Disorder (e.g., psychotic disorders, bipolar I disorder), Disinhibited Externalizing (e.g., substance use disorders), Antagonistic Externalizing (e.g., narcissism), Detachment (e.g., avoidant personality disorder) and Somatoform (e.g., Illness Anxiety Disorder). Although the Hierarchical Taxonomy of Psychopathology (HiTOP) represents an important step forward in our understanding of mental disorders, further validation of these spectra is needed (Kotov et al., 2017). In addition, more work is needed to understand personality at its lower levels, the structure of which has often been rationally rather than empirically derived. Specifically, due to domain heterogeneity, in which elements of the domain may function differently, interpretation at the domain level can be problematic or unclear (Smith, McCarthy, & Zapolski, 2009). For instance, Smith and colleagues (2009) argue that two individuals could each be similarly high on domain level Neuroticism, but one may be highly self-conscious, whereas the other may be particularly high on angry hostility. Given the potential for interpretive challenges at the domain level, there's considerable value in gaining a more nuanced understanding of the lower-order facets. To-date, researchers have examined the lower-order structure of several general traits (i.e., Agreeableness [Crowe, Lynam, & Miller, 2018], Conscientiousness [Roberts et al., 2005]; Extraversion [Watson et al., 2015]), which has revealed considerable variability among the facets and their relations with theoretically-relevant outcomes at the domain level. Although researchers have begun to examine the lower-structure of general traits, less attention has been paid to gaining an empirically derived, comprehensive understanding of the lower-order structure of pathological traits. Therefore, the present investigation seeks to extend this literature base by using a bottom-

up approach to uncover an empirically derived lower-order structure of antagonism based upon extant measures.

Conceptualization of Antagonism

Antagonism is largely considered to be a suite of interpersonally focused emotions, cognitions, and behaviors situated underneath the broader externalizing spectra (which combines difficulties due, in part, to antagonism and disinhibition) in HiTOP-like models of psychopathology, characterized by individual differences in callousness or a lack of concern for the feelings of others and a lack of guilt or remorse for one's actions, a grandiose sense of self as well as excessive attempts to be the center of attention, and vengeful behavior. Antagonism is also described by dishonesty and frequent use of manipulation to achieve one's ends (APA, 2013). In general models of personality, Antagonism is situated at the opposite end of the spectrum of Agreeableness. Individuals high in Agreeableness tend to be straightforward, trusting, and motivated to maintain positive relations with others (Crowe et al., 2018). Antagonism exhibits the most robust personality-based relations with externalizing behaviors, namely, crime, aggression, alcohol and substance use, risky sexual behavior, and antisocial behavior (Lynam & Miller, 2019). Additionally, Antagonism, or low Agreeableness, has been an important feature of many PDs, including, Antisocial PD, Narcissistic PD, Borderline PD and is thought to be the core of the Dark Triad (i.e., psychopathy, narcissism, and Machiavellianism; Paulhus & Williams, 2002; see Vize, Miller, & Lynam, 2019, for review). Moreover, Antagonism is so central to narcissism and psychopathy that it has been argued that high Antagonism is not only necessary for both PDs, but may also be sufficient (Lynam & Miller, 2019)

Despite our understanding of these relations at the domain level, analyses at this level do not allow for a full understanding as the lower-order facets may exhibit differential relations with outcomes. For instance, Johnson, Sellbom, and Glenn (2018) found that deceitfulness exhibited the largest, significant relations to all externalizing outcome examined (i.e., factor composites of aggression, “hard drugs,” alcohol [use and problems], marijuana [use and problems], problem behavior, and driving [violations]); however, grandiosity was not significantly related to any externalizing outcomes, and the other lower-order traits displayed a variable patterns of relations with the outcomes. Given these variable relations evinced with externalizing outcomes at the lower-order level, a comprehensive, empirically derived lower-order structure of antagonism is needed to gain a more nuanced understanding of these relations.

Current Models and Measures of Antagonism

Antagonism-related content appears in various forms of every major model of pathological personality, and as such, numerous existing measures can be used to access various components of antagonism. Extant work generally has focused on a two-level model (i.e., domains, which are described by lower-order facets). Despite some similarities across models, a closer look at the lower-order facets reveals a lack of agreement in the structure of Antagonism. In what follows, several existing measures will be briefly reviewed.

Broadband Pathological Personality Measures.

The Personality Inventory for *DSM-5* (PID-5; Krueger et al., 2012) was developed to capture the *DSM-5* Section III AMPD. This model was developed in an effort to integrate extant models of personality psychopathy to adequately capture *DSM-IV* PDs (Krueger et al., 2012). In the AMPD, personality psychopathology is organized in a hierarchical fashion with 5 broad domains (i.e., Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism)

comprised of 25 facets which may cross-load onto one or more domains. Of note, despite reliance on extant models to guide selection of domains, facets were rationally selected by the *DSM-5* Personality and Personality Disorder work group members and consultants (Krueger et al., 2012). Empirical work has largely demonstrated that the PID-5 largely overlaps with general models of personality, such that convergent correlations for the *DSM-5* trait model and the Big Five/Five Factor Model that ranged from .20 (Psychoticism – Openness) to .71 (Negative Affectivity – Neuroticism) with a median of .58 (Miller, 2019).

The Computerized Adaptive Test of Personality Disorder (CAT-PD; Simms, 2013) was developed similarly to the PID-5 and utilizes a dimensional framework to assess personality-based psychopathology by examining various underlying pathological personality traits. The CAT-PD project had two primary goals: to isolate an integrative, comprehensive set of higher- and lower-order personality traits and to create a computerized system, based on adaptive testing principles, to assess traits efficiently. The full CAT-PD is comprised of 33 scales 1,366 items, whereas the shorter static form has 212 items spanning the 33 scales. Regarding its structure, the CAT-PD is able to model all of the PID-5 domains and includes 9 additional facets (Simms et al., 2011), several of which are particularly relevant to antagonism (e.g., domineering, norm violation, and rudeness).

The Dimensional Assessment of Personality Pathology-Basic Questionnaire (DAPP-BQ; Livesley, 1990) is a broadband model of personality psychopathology that assess prototypical behaviors and traits associated with personality disorders. Factor analytic work has supported a two-level model with four higher-order factors (i.e., Emotional Dysregulation, Dissocial Behavior, Inhibition, and Compulsivity; Livesley, Jackson, & Schroeder, 1992; Livesley, Jang, & Vernon, 1998), which are underlaid by 18 trait dimensions—Affective Lability Anxiousness,

Callousness, Cognitive Dysregulation, Compulsivity, Conduct Problems, Identity Problems, Insecure Attachment, Intimacy Problems, Narcissism, Oppositionality, Rejection, Restricted Expression, Self-harm, Social Avoidance, Stimulus Seeking, Submissiveness, and Suspiciousness. Like other conceptualizations of antagonism, the DAPP-BQ emphasizes stimulus seeking and callousness; however, it also includes other features unique to this model (e.g., rejection, suspiciousness, narcissism; Livesley et al., 1992).

More recently, the Personality Inventory of ICD-11 (PiCD; Oltmanns, & Widiger, 2018) was developed to capture the dimensional personality disorder model proposed for 11th edition of the International Classification of Diseases. Similar to the AMPD, the ICD-11 proposal consists of 5 broad domains—Negative Affective, Detachment, Dissocial, Disinhibition, and Anankastic. Apart from Anankastic, the PiCD domains manifest large convergent correlations with domains from the AMPD that ranged from .77 (PiCD Dissocial – PID-5 Antagonism) to .85 (PiCD Disinhibition – PID-5 Disinhibition) with a median of .80 (Oltmanns & Widiger, 2018). Despite its alignment with the AMPD, the ICD-11 does not include any facets; thus, making it a singular level model (Tyrer, Reed, & Crawford, 2015).

Antagonism-Related Personality Disorder Measures.

As previously stated, the FFM is the predominant dimensional framework of general personality, and it enjoys an abundance of empirical support across an array of research domains (Widiger, Lynam, Miller, & Oltmanns, 2012). Despite being a measure of general personality structure, it is considered an integrative descriptive model (John et al., 2008), and an abundance of literature suggests that PDs can be conceptualized as maladaptive or extreme variants of FFM traits (Miller, Lynam, Widiger, & Leukefeld, 2001; Samuel & Widiger, 2008). As such, researchers have developed measures focused on the maladaptive variants of the traits to capture

DSM PDs (Widiger et al., 2012). In what follows, several existing measures of PDs will be briefly reviewed.

The Five-Factor Narcissism Inventory (FFNI; Glover, Miller, Lynam, Crego, & Widiger, 2012) is a measure of grandiose and vulnerable narcissism from the perspective of the FFM. Broadly, the FFNI is comprised of 15 scales, which were identified based upon expert opinion and empirical relations exhibited between measures of narcissism and the FFM. As such, these scales have been found to adequately represent the FFM domains (Glover et al., 2012; Miller et al., 2013). Despite being a measure of narcissism, antagonism is well-represented (e.g., FFM Antagonism is captured by Cynicism/Distrust, Manipulativeness, Exploitativeness, Entitlement, Lack of Empathy, and Arrogance). Indeed, more recently, researchers have found evidence for a three-factor model of narcissism—Agentic Extraversion, Antagonism, and Neuroticism (Miller et al., 2016).

The Five Factor Machiavellianism Inventory (FFMI; Collison, Vize, Miller, & Lynam, 2018) is a new measure of Machiavellianism based on the FFM. To identify relevant facets, Collison and colleagues (2018) were guided by expert opinion, and based upon these selections, they wrote extreme and “Machiavellianism-specific” item content. Final items were selected based on item-response theory (IRT) analyses. The final measure is a two-level model, with three domains (i.e., Agency, Antagonism, and Planfulness), which are underlaid by 13 facets.

The Elemental Psychopathy Assessment (EPA; Lynam et al., 2011) is a measure of basic trait elements of psychopathy found to be consistently associated to its conceptualization from the FFM. Consistent with the other measures based upon the FFM, Lynam and colleagues (2011) were guided by empirical relations exhibited by the original item content to describe more pathological descriptions consistent with psychopathy (e.g., “I have more important things to

worry about than other people's feelings" for Self-Centeredness). The EPA is comprised of 18 traits (i.e., Callousness, Coldness, Distrust, Manipulation, Self-Centeredness, Disobliged, Impersistence, Opposition, Rashness, Thrill-Seeking, Urgency, Anger, Arrogance Dominance, Self-Assurance, Invulnerability, Self-Contentment, and Unconcern), which underlie four broad factors—Antagonism, Disinhibition, Narcissism, and Emotional Stability.

Need for Structural Integration

Despite consensus at the domain level, the lower-order structure of antagonism, and personality psychopathology, more broadly, varies based on theoretical perspectives as well as at various levels of abstraction (John & Srivastava, 1999). Generally, across models, conceptualizations of Antagonism include traits related to manipulateness, callousness, grandiosity, and hostile aggression; however, unique features include domineering, norm violation, rejection, and rudeness. Although in case of the former, these models may include facets with the same name; however, interpretation remains problematic, as the scales across these measures may have the same name but may actually assess different content or vary in the breadth or scope of a construct (John & Srivastava, 1999). For instance, measures may differ regarding the range of the trait that they seek to address (Samuel et al., 2010); thus, two measures of the "same" trait may differ in content and/or characteristics (Krueger & Markon, 2014). As such, in addition to problematic interpretation, measurement issues may arise. For instance, if measures of the same trait assess the same range of that trait, they will likely evince high relations, whereas those measuring the same trait at differing ranges may result in lower relations or spurious factors (Krueger & Markon, 2014; McDonald, 1965).

Given these potential interpretive and practical limitations, it is imperative to integrate conceptualizations of antagonism by creating an empirically derived, structural model. Indeed,

developing a comprehensive structure of personality taxonomy at the facet level is paramount to understanding the relations between these variables and theoretically relevant outcomes in its nomological network (Hough, 1992; Hough & Ones, 2001; Hough & Schneider, 1996). Recently, Crowe and colleagues (2018) worked to identify an empirically derived lower-order structure of Agreeableness. In their examination, they identified five unique facets: Compassion (versus Callousness), Morality (versus Immorality), Modesty (versus Arrogance), Affability (versus Combativeness), and Trust (versus Distrust). This represents an important step forward in our understanding of the lower-order structure of general models of Agreeableness (versus Antagonism), however, more work is needed to understand the lower-order structure of full range of the trait.

Developing a Comprehensive Understanding of Antagonism

To address the aforementioned limitations, Goldberg (2006) described a factor-analytic methodology, the “Bass-ackward,” in which a series of factor analyses are conducted in a stepwise fashion. The first extracted factor is larger than any of the subsequent extracted factors and represents what is most common to the data. Subsequent, factors are extracted until they are no longer interpretable. At each level, factor scores are saved, so that interrelations among the factors at different levels can be examined. One benefit to this stepwise approach is that it allows researchers to examine the structure of various constructs at their most broad to the most precise, lower-order levels.

In the current analyses, a comprehensive pool of antagonism items was gathered and the “Bass-ackward” factor analytic approach was used. To increase factor stability as well as the number of predictors for each factor, I gathered an item pool of over 200 items to analyze using this method (Marsh et al., 2013; Schmitt, Sass, Chappelle, & Thompson, 2018). Given that the

items will be pulled from various extant measures differing in their theoretical background, I will be able to develop a consensual, empirically derived structure of antagonism. Due to item content diversity as well as concerns regarding item parcels, analyses will be conducted at the item level to maximize the flexibility of the factor structure and the stability of the lower-order structure (Marsh et al., 2013). Specifically, Marsh and colleagues (2018) raise significant concerns regarding using facet scales, which are parcels of items, when the parcels are multidimensional and will exhibit high-cross loadings, and as such, report that the use of parcels are only appropriate under specific circumstances. Once the final item pool was identified, factors were extracted until they were too specific to be meaningful or until they were no longer interpretable. The identified factors were correlated with various theoretically relevant outcomes in antagonism's nomological network (e.g., FFM traits, aggression, substance use) so as to develop a clearer understanding of the resultant factors that emerge. Given the substantial overlap between general models and pathological models of personality, it is expected that the current analyses will yield a similar pattern of results to that of which obtained by Crowe and colleagues' (2018) structural analyses of agreeableness; however, hypotheses on emergence of the factors would be speculative, and as such the present investigation is largely exploratory.

CHAPTER 2

METHOD

Participants and Procedure

The sample consisted of 637 individuals recruited from a large, southeastern, public university. To be eligible, participants were required to be 18 years of age or older. Students received one hour of research credit for their participation. To rule out invalid responses, participant data were excluded if they exhibited an invalid response style on the basis of elevated scores on the Infrequency and/or Virtue scales of the Elemental Psychopathy Assessment (Lynam et al., 2011; $N = 24$), failed ≥ 3 (out of 6) attentional checks ($N = 17$), indicated that they did not pay attention to every item or answer honestly ($N = 26$), for a response time suggestive of invalid responding (1200 seconds; $N = 38$), or for exhibiting a singular response style (e.g., responding to survey with all 1s) on 85% or more of the items ($N = 0$). After invalid responders were removed, self-report data were available for 532 individuals (57% female; 76% White, 14% Asian; 6% Black; mean age = 19.34; $SD = 1.76$). IRB approval was obtained for all aspects of the study.

Measures

Antagonism item pool.

Computerized Adaptive Test of Personality Disorder Static Form (CAT-PD-SF; Simms, 2013). The CAT-PD-SF is a brief measure (216-items) drawn from the full CAT-PD item pool, which utilizes a dimensional based approach to assess personality-based pathology by examining various underlying pathological personality traits. In the current study, 48 antagonism

items from the facets Callousness ($\alpha = .89$), Domineering ($\alpha = .83$), Grandiosity ($\alpha = .84$), Hostile Aggression ($\alpha = .82$), Manipulativeness ($\alpha = .86$), Norm Violation ($\alpha = .79$), and Rudeness ($\alpha = .84$) were included (Wright & Simms, 2014).

Dimensional Assessment of Personality Pathology-Basic Questionnaire (DAPP-BQ; Livesley, 1990). The DAPP-BQ is a 290-item self-report measure of 18 broad traits relevant to personality disorders. Based on Livesley, Jackson, and Schroeder's (1992) factor analysis, 78 antagonism items from the Callousness ($\alpha = .88$), Narcissism ($\alpha = .89$), Rejection ($\alpha = .88$), Stimulus Seeking ($\alpha = .91$), and Suspiciousness ($\alpha = .92$) facets were included.

Elemental Psychopathy Assessment-Short Form (EPA-SF; Lynam et al., 2013). The EPA-SF is a 60-item abbreviated, self-report measure of psychopathy from the five-factor model perspective. In the current study, 20 antagonism items ($\alpha = .87$) were included from the facets Callousness ($\alpha = .71$), Coldness ($\alpha = .69$), Distrust ($\alpha = .68$), Manipulation ($\alpha = .75$), and Self-Centered ($\alpha = .76$).

Five Factor Machiavellianism Inventory (FFMI; Collison, Vize, Miller, & Lynam, 2018). The FFMI is a 52-item self-report measure of Machiavellianism based on the FFM. In the current study, 20 antagonism items were included from the Callousness ($\alpha = .74$), Cynical ($\alpha = .58$), Immodesty ($\alpha = .61$), Manipulativeness ($\alpha = .62$), and Selfishness ($\alpha = .69$) facets.

Five Factor Narcissism Inventory Short Form (FFNI-SF; Sherman et al., 2015). The FFNI-SF is a 60-item abbreviated form of the FFNI (Glover et al., 2012). The FFNI was designed to measure maladaptive expressions of FFM facets related to narcissistic personality profiles. In the current study, 32 antagonism items ($\alpha = .91$) were included from the Arrogance ($\alpha = .70$), Distrust ($\alpha = .73$), Entitlement ($\alpha = .81$), Exploitativeness ($\alpha = .83$), Lack of Empathy

($\alpha = .81$), Manipulativeness ($\alpha = .87$), Reactive Anger ($\alpha = .76$), and Thrill Seeking ($\alpha = .87$) facets were included.

Personality Inventory for DSM-5-Faceted Brief Form (PID-5-FBF; Maples et al., 2016). The PID-5-FBF is a 100-item self-report measure of the *DSM-5* Section III trait model. In the current study, 26 Antagonism ($\alpha = .91$) items from the Attention Seeking ($\alpha = .87$), Callousness ($\alpha = .86$), Deceitfulness ($\alpha = .82$), Grandiosity ($\alpha = .86$), Hostility ($\alpha = .84$), and Manipulativeness ($\alpha = .85$) facets were included.

Personality Inventory for ICD-11 (PiCD; Oltmanns & Widiger, 2018). The PiCD is a 60-item self-report measure of the ICD-II personality disorder trait model proposal. In the current study, 12 dissocial items ($\alpha = .85$) were included.

Criterion measures.

International Personality Item Pool representation of the Revised NEO Personality Inventory – 60 item version (IPIP-NEO-60; Maples-Keller et al., 2017). The IPIP (Goldberg et al., 2006) is a collection of publicly available items and scales. The IPIP-NEO-60 is a 60-item measure of the five domains, Neuroticism ($\alpha = .84$), Extraversion ($\alpha = .85$), Openness ($\alpha = .73$), Agreeableness ($\alpha = .79$), and Conscientiousness ($\alpha = .83$), and 30 facets of the five-factor model of personality.

Crime and Analogous Behavior scale (CAB; Miller & Lynam, 2003). The CAB is a 25-item self-report measure of various externalizing behavior including substance use ($\alpha = .61$) and antisocial behavior ($\alpha = .31$).

Reactive and Proactive Aggression Questionnaire (RPA; Raine et al., 2006). The RPA is a 23-item, self-report measures of proactive ($\alpha = .74$) and reactive aggression ($\alpha = .84$).

Patient-Reported Outcomes Measurement Information System- Anxiety and

Depression Scales (PROMIS ANX; PROMIS DEP; Pilkonis, Choi, Reise, Stover, Riley, & Cella, 2011). The PROMIS ANX and DEP are brief self-report questionnaires designed to assess anxiety ($\alpha = .93$) and depression ($\alpha = .95$) over the past 7 days.

Interpersonal Adjective Scales. (IAS; Wiggins, 1995). The IAS contains 64 adjectives, scored on a 1 to 8 scale, that provide scores on the interpersonal circumplex (IPC). The scale includes eight octant scores and scores on the two primary axes of dominance and nurturance. Alphas for the octants ranged from .74 (Unassuming-Ingenuous) to .89 (Warm-Agreeable), with a median of .83.

Validity Scales. Two validity scales from the Elemental Psychopathy Assessment (Lynam et al., 2011) were used – the *Infrequency Scale* (e.g., “I try to eat something almost every day”; reversed), and the *Too Good to Be True Scale* (e.g., “I have never in my life been angry at another person.”). Participants’ data will be omitted if they receive a score of four or more on the Infrequency Scale or a score of three or more on the Too Good to Be True Scale. The 16 items from these two scales were embedded within the pool of antagonism items (see *Data Analysis*).

Data Analysis

Prior to collecting data, all of the antagonism items from each of the pathological personality measures were intermixed into a single pool of 250 items (i.e., 234 antagonism items and 16 validity scale items). A random number generator was used to randomize the pool of items. Participants rated their agreement with each item on the same 1 to 5 scale, with 1 meaning “*Strongly Disagree*” and 5 meaning “*Strongly Agree*.”

After data collection was complete, items were examined to identify any identical items. Six pairs of identical items were identified in the item set. In each case, the first item was

retained, while the second item was removed. Next, items were correlated with one another to identify excessively overlapping items. Seventy-three item pairs were identified with correlations greater than .65 (see Crowe et al., 2018 for description of similar method). Individual items were removed from the overlapping set in a stepwise fashion intended to minimize bias and maximize the final number of retained items. Each item's total number of inter-item correlations greater than .65 were counted, the individual item with the highest count was removed, each item's total number of correlations were then recounted, and the process was repeated. In instances where more than one item had the same number of inter-item correlations greater than .65, a random number generator was used to select a single item to be pulled from the pool ($N = 33$). Next, items with factor loadings less than .30 on the general Antagonism factor were removed for being unrepresentative of the broad factor (Osborne & Costello, 2009; $N = 25$). The final item pool consisted of 170 items on which the structural analyses were conducted. Scale descriptive statistics and their representation in the final item pool are presented in Table 1.

All factor solutions were identified using a Principal Axis factoring method. A single unrotated factor was extracted, then rotated solutions of successively more factors were extracted until one of the factors was either too specific to be meaningful (e.g., a factor composed of the single item) or was no longer interpretable. All rotated solutions were identified using a Promax rotation. At each step in the process the factor scores were saved so that factor solutions from different levels could be correlated and compared. Next, extracted factors were correlated with existing antagonism scales, the Five Factor Model, and other relevant external criterion variables (e.g., antisocial behavior, aggression, substance use).

Table 1

Antagonism Scale Descriptive Statistics

Scale	Items	α	m_{irr}	M	SD
EPA-SF		.87	.26	2.01	.49
Callousness	4 (4)	.71	.38	1.80	.66
Coldness	4 (2)	.69	.36	1.63	.56
Distrust	4 (2)	.68	.34	2.84	.72
Manipulation	4 (4)	.75	.45	2.00	.77
Self-Centered	4 (4)	.76	.46	1.76	.61
FFMI		.83	.20	2.41	.45
Callousness	4 (2)	.74	.42	2.07	.70
Cynical	4 (0)	.58	.25	2.98	.61
Immodesty	4 (3)	.61	.28	2.51	.63
Manipulativeness	4 (3)	.62	.29	2.72	.73
Selfishness	4 (4)	.69	.35	1.79	.51
FFNI-SF		.91	.26	2.14	.51
Arrogance	4 (4)	.70	.37	1.83	.65
Distrust	4 (0)	.73	.41	2.82	.76
Entitlement	4 (3)	.81	.53	1.64	.59
Exploitativeness	4 (4)	.83	.58	1.79	.68
Lack of Empathy	4 (3)	.81	.54	2.32	.90
Manipulativeness	4 (2)	.87	.63	2.57	.89
Reactive Anger	4 (4)	.76	.44	2.35	.99
Thrill-seeking	4 (2)	.87	.62	1.80	.72
PiCD					
Dissocial	12 (11)	.85	.32	2.05	.63
PID-5-BFB		.91	.47	1.78	.62
Attention Seeking	4 (3)	.87	.64	2.55	.98
Callousness	4 (3)	.86	.61	1.43	.55
Deceitfulness	4 (3)	.82	.55	1.85	.76
Grandiosity	4 (3)	.86	.61	1.49	.57
Hostility	4 (3)	.84	.57	2.00	.83
Manipulativeness	4 (1)	.85	.60	2.00	.85
CAT-PD		.95	.32	1.69	.48
Callousness	7 (6)	.89	.54	1.54	.57
Domineering	6 (6)	.83	.46	2.03	.74
Grandiosity	7 (5)	.84	.46	1.56	.51
Hostile Aggression	8 (8)	.82	.39	1.49	.51
Manipulativeness	6 (4)	.86	.50	1.62	.61
Norm Violation	7 (5)	.79	.36	1.80	.66
Rudeness	7 (7)	.84	.44	1.89	.71
DAPP-BQ		.96	.23	2.46	.52
Callousness	16 (15)	.88	.34	1.95	.56
Narcissism	16 (6)	.89	.33	2.91	.71
Rejection	16 (15)	.88	.31	2.60	.66
Stimulus Seeking	16 (8)	.91	.40	2.49	.75
Suspiciousness	14 (8)	.92	.46	2.34	.73
Total	234 (170)	.98	.70	2.14	.45

Note. m_{ijr} = Mean inter-item correlation; The item numbers in parentheses indicate the number from each scale that was included in the final item pool. EPA-SF = Elemental Psychopathy Assessment – Short Form; FFMI = Five Factor Machiavellianism Scale; FFNI-SF = Five Factor Narcissism Inventory – Short Form; PiCD = Personality Inventory of ICD-11; PID-5-FBF = Personality Inventory for the *DSM-5* – Faceted Brief Form; CAT-PD = Computerized Adaptive Test of Personality Disorder; DAPP-BQ = Dimensional Assessment of Personality Pathology – Basic Questionnaire.

CHAPTER 3

RESULTS

The first unrotated Antagonism factor accounted for 23% of the total variance. The first 20 eigenvalues of this analysis can be found in Figure 1. After the first factor analysis was examined, a series of subsequent factor analyses were conducted. To determine the optimum number of factors, eigenvalues were first examined (see Figure 1). Next, a parallel analysis was conducted (Horn, 1965), which indicated 14 factors could be extracted, whereas Velicer's minimum average partial (MAP; Velicer, 1976) test suggested the presence of 21 factors. Factor analyses progressed until a nine-factor solution, at which point the ninth factor had only 1 item with its highest loading. As such, I determined that an 8-factor structure was the maximum number of unique factors to be considered. Each of the solutions were examined to evaluate fit indices, the overall parsimony, and interpretability of the factors. Across fit indices, the seven-factor and eight-factor solution provided the best fit of the data. In the eight-factor solution, a 10-item manipulation/confrontation-related factor emerged; however, loadings were moderate in nature and only provided a small incremental of variance (i.e., 1%) beyond the seven-factor solution. Thus, the seven-factor model was found to provide the overall best fit of the data and accounted for 40% of the variance in Antagonism scores.

Hierarchical Structure of Antagonism

The final hierarchical structure of Antagonism factors can be found in Figure 2. Example item content for each factor is provided in Table 2¹. At each level for the seven-factor solution,

¹ Example Item content for Factors 1 through 6 is provided in Table A1.

factor scores were saved and correlated with each of the Antagonism scales comprising the Antagonism item pool (Table 3), the Five Factor Model (Table 4), and other external criterion measures (Table 6)². Across all analyses, I compared the relations manifested by the factors with all outcomes (i.e., factor relations with antagonism scales, FFM traits, and other external criteria) by way of tests of dependent *r*s. Although differences are noted in the results table, they are discussed in the text due to the substantial space it would require. Additionally, across solutions, factor content and stability were examined. To so, factors were correlated with each other at each level for all solutions (i.e., factors 1 through 7; *r*s between factor levels can be found on the top of the diagonal), and their absolute similarity in terms of correlational profiles across all outcomes can be found in Table 7 below the diagonal.

At the broadest level, the first unrotated, identified factor (F1.1), labeled Antagonism, evinced robust relations with Antagonism scales, with *r*s ranging from .77 (EPA-SF) to .92 (CAT-PD). At the facet level, *r*s ranged from .30 (FFMI Cynical) to .89 (DAPP-BQ Callousness), with a median of .61. This Antagonism factor evinced nearly identical relations with each factor in the two-factor solution (i.e., *r*s = .92 and .91, for F2.1 and F2.2, respectively).

At the next level, factors accounted for 28% of the variance in Antagonism. The first factor, termed Callousness (F2.1) was composed of items describing a lack of empathy or concern for others. Correlations with Antagonism total scores ranged from .65 (DAPP-BQ) to .85 (CAT-PD), and at the facet level, *r*s ranged from .21 (PID-5 Attention Seeking) to .87 (DAPP-BQ Callousness), with a median of .54. Additionally, it manifested the most robust relations with facets assessing callousness, manipulation/exploitation, and self-centeredness. Across solutions, its profile remained highly stable, with similarity greater than or equal to .98 at

² See Table A2 and A3, for supplemental analyses with the Five Factor Model and other external criterion measures for Factors 1 through 6.

each of the seven solutions. The second factor in this solution (F2.2), termed Dissocial, was characterized by a more diverse range of item content (e.g., deceitfulness, manipulation, domineering). Relations with Antagonism measures ranged from .58 (EPA-SF) to .93 (DAPP-BQ) and from .16 (EPA-SF Coldness) to .83 (DAPP-BQ Rejection) for facets, with a median of .61. Generally, the Dissocial factor manifested the most robust relations with scales assessing rude, deceptive, and hostile behavior.

In the 3-factor solution, 31% of the variance was accounted for. Callousness (F3.1) evinced an identical profile ($icc = 1.00$) with Callousness from the two-factor solution; thus, the item content and the domain and facet level correlations were generally consistent. From the Dissocial factor (F2.2), two new factors emerged. Ruthless Self-Interest (F3.2) manifested a highly similar profile to the Dissocial Factor ($icc = .99$; F2.2 and F3.2 $r = .96$) and was composed of item content related to a narcissistic, domineering, and exploitative interpersonal style. Similar to the Dissocial factor, Ruthless Self-Interest manifested correlations with the domain level scales that ranged from .62 (DAPP-BQ) to .83 (EPA-SF), and from .18 (EPA-SF Coldness) to .88 (DAPP-BQ Rejection) with a median of .58 for facets. The third factor (F3.3), termed Disinhibition, also manifested a highly similar profile to the Dissocial factor (F2.2; $icc = .97$; $r = .85$). At the domain level, it manifested r s ranging from .51 (EPA-SF) to .84 (CAT-PD), and at the facet-level, r s ranged from .16 (EPA-SF Coldness) to .79 (CAT-PD Norm Violation) with a median of .49.

At the fourth level of analyses, 34 % of the variance in Antagonism was accounted for. Callousness (F4.1) and Disinhibition (F4.3) remained consistent, with profile similarities of 1.00 with their respective counterparts. Item content from Ruthless Self-Interest (F3.2) split to yield factors characterized by item content related to grandiosity and domineering and exploitative

behavior (Narcissism F4.2) and by hostility and distrust (Suspiciousness F4.4). Narcissism (F4.2) manifested relations with antagonism measures that ranged from .47 (EPA-SF) to .85 (DAPP-BQ) and from .11 (FFMI Cynical) to .79 (DAPP-BQ Rejection), with a median of .52 for facet-level relations. For Suspiciousness (F4.4), domain level correlations ranged from .51 (PID-5) to .76 (DAPP-BQ), and facet-level relations ranged from .17 (FFNI-SF Entitlement) to .79 (DAPP-BQ Suspiciousness), with a median of .46.

At the fifth level, the factors accounted for 36% of Antagonism's variance. Callousness (F5.1), Disinhibition (F5.3), and Suspiciousness (F5.4) remained consistent, such that their profiles were observed to be identical with their respective counterparts (*iccs* = 1.00). Narcissism (F4.2) split to yield factors termed Grandiosity (F5.2) and Control of Others (F5.5). Grandiosity (F5.2) was composed of items related to a grandiosity and self-interest and manifested correlations at the domain level that ranged from .35 (EPA-SF) to .77 (PID-5) and from .02 (FFMI Cynical) to .79 (CAT-PD Grandiosity), with a median of .46 for facets. Control of Others (F5.5) was characterized by item content related to manipulation, exploitation, and domination. This factor manifested domain level relations with Antagonism measures that ranged from .57 (CAT-PD) to .78 (PiCD). For facets, *rs* ranged from .18 (EPA-SF Coldness) to .80 (FFNI-SF Manipulation), with a median of .45.

At the sixth level of analysis, 38% of the variance was accounted for. Callousness (F6.1), Grandiosity (F6.2), Disinhibition (F6.3), and Suspiciousness (F6.4) emerged as nearly identical factors as their counterparts at the fifth level of analysis, with absolute profile similarities of 1.00, .99, 1.00, .99, respectively. Item content from Control of Others (F5.5) split to yield factors termed Manipulation (F6.5) and Domineering (F6.6). Manipulation (F6.5) was characterized by item content more narrowly described by exploitation and manipulation, and manifested domain

level *rs* that ranged from .64 (DAPP-BQ) to .83 (PID-5) and .27 (FFNI-SF Reactive Anger) to .85 (EPA-SF Manipulation), with a median of .49 for facets. Domineering (F6.6) was described by items related to a hostile, domineering interpersonal style. At the domain level, *rs* ranged from .31 (CAT-PD) to .61 (DAPP-BQ), whereas correlations for facets ranged from .00 (EPA-SF Coldness) to .78 (DAPP-BQ Rejection), with a median of .29.

At the final level of analysis, the seven factors were able to account for 40% of the variance in Antagonism. Callousness (F7.1), Grandiosity (F7.2), Suspiciousness (F7.4), Manipulation (F7.5), and Domineering (F7.6) were observed to be nearly identical with *iccs* of .99 or higher. Disinhibition (F6.3) split to yield factors termed Aggression (F7.3) and Risk Taking (F7.7). Aggression (F7.3) was characterized by items relating to a rude, hostile, and aggressive interpersonal style. Its domain level correlations ranged from .44 (FFMI) to .86 (CAT-PD), whereas its facet level correlations ranged from .18 (DAPP-BQ Narcissism) to .87 (CAT-PD Hostility), with a median of .43. Risk Taking (F7.7) was composed of items related to stimulation-seeking and adventurousness, and manifested domain level relations that ranged from .28 (EPA-SF) to .67 (DAPP-BQ) and facet level relations ranging from .00 (EPA-SF Coldness) to .90 (DAPP-BQ Stimulation Seeking), with a median of .32. At this level of analysis, convergence with the overall Antagonism domain was generally robust, with correlations ranging from .55 (Risk Taking F7.7) to .81 (Callousness F7.1), with a median of .71. Additionally, at this level, each factor appeared to be adequately unique with factor level relations ranging from .29 (Callousness F7.1 – Risk Taking F7.7) to .59 (Callousness F7.1 – Manipulation F7.5), with a median of .44.

Factor Relations to External Criterion Measures

To assess their relative divergence, at each level, factor scores were correlated with various external criterion measures (e.g., general personality traits, aggression, substance use, interpersonal adjectives; see Tables 4 & 6 for relations at the seven-factor level³). Additionally, to determine the importance of the relative contribution of general personality traits in accounting for variance in the Antagonism factors, dominance analyses were undertaken, and general dominance weights are presented in Table 5. Moreover, the general dominance of each FFM domain was calculated by averaging the amount of variance accounted for in each Antagonism factor and comparing it to the average variance accounted for by the other FFM domains in that same factor.

In relation to the FFM domains, generally, the most robust relations were observed with Agreeableness (*r*s ranged from -.30 [Risk Taking F7.7] to -.76 [Callousness F7.1], with a median of -.46) and Conscientiousness (*r*s ranged from -.04 [Domineering F7.6] to -.51 [Aggression F7.3], with a median of -.35). For the other FFM domains, a variable pattern of bivariate relations was observed. Indeed, for Neuroticism, the most robust relations were observed with Suspiciousness (F7.4; *r* = .46) and Grandiosity (F7.3; *r* = .21) and Aggression (F7.4; *r* = .21), whereas relations with other factors were null. Similarly, for Extraversion, moderate relations were observed with Domineering (F7.6; *r* = .29), Risk Taking (F7.7; *r* = .28), and Callousness (F7.1; *r* = -.19). Apart from Callousness (F7.1; *r* = -.24), factor relations with Openness were null.

Unsurprisingly, Agreeableness and Conscientiousness emerged as the most dominant domain-level predictors across the seven-factor solution. Indeed, Agreeableness accounted for a significant amount of variance in the seven factors, ranging from 21% (Risk Taking [F7.7]) to

³ See Table A2 and A3, for supplemental analyses with the Five Factor Model and other external criterion measures for factor solutions 1 through 6.

81% (Callousness [F7.1]; see Table 5). Although Conscientiousness accounted for somewhat less variance than Agreeableness, it was still able to account for 3% (Domineering [F7.6]) to 40% (Risk Taking [F7.7]) of the variance in Antagonism factors. Across other factors, the FFM domains accounted for a variable amount variance. For instance, Extraversion accounted for a moderately large amount of variance in the Risk Taking (F7.7; 33%) and Domineering factors (F7.6; 32%) but did not meaningfully account for variance in the other Antagonism factors. Similarly, Neuroticism accounted for 41% of the variance in Suspiciousness, but did not meaningfully account for variance in the other factors (% of variance ranged from 1% (Manipulation [F7.5] and Domineering [F7.6]) to 11% (Grandiosity [F7.2])). Finally, Openness did not account for meaningful variance in any of the Antagonism factors, with variance accounted for ranging from .79% (Manipulation [F7.5]) to 6% (Callousness [F7.1]).

Relations with other external criterion measures were variable across the seven-factors (see Table 6). For substance use, apart from Callousness (F7.1), which manifested a null relation ($r = .08$), effects consistently fell in the small to moderate positive range (r s ranged from .14 (Grandiosity [F7.2]) to .39 (Risk Taking [F7.7])). Across factors, relations with antisocial behavior were somewhat larger in magnitude, with correlations ranging from .10 (Grandiosity [F7.2]) to .30 (Aggression [F7.3]). Correlations with aggression variables consistently fell within the moderate to large positive range. More specifically, for proactive aggression, r s ranged from .17 (Grandiosity [F7.2]) to .45 (Aggression [F7.3]), and for reactive aggression, r s ranged from .18 (Callousness [F7.1]) to .52 (Suspiciousness [F7.4]). Apart from Suspiciousness (r s = .34 and .43, respectively), relations with anxiety and depression, were null to small in magnitude. Correlations with the interpersonal circumplex (IPC) Dominance axis varied across factors from null ($r = -.04$; Callousness [F7.1]) to large, positive relations ($r = .42$; Domineering

[F7.6]). More consistently robust relations were observed for IPC Love, such that r s ranged from -.27 (Risk Taking [F7.7]) to -.74 (Callousness [F7.1]).

Table 2

Example Item Content

Scale	Item	Callous	Grand.	Agg	Susp.	Manip	Dom	Risk
		F7.1	F7.2	F7.3	F7.4	F7.5	F7.6	F7.7
FFNI-SF	I don't worry about others' needs.	.79*	.42	.36	.33	.47	.27	.23
CAT-PD	I can't be bothered with others' needs.	.74*	.48	.48	.35	.42	.30	.24
CAT-PD	I am indifferent to the feelings of others.	.72*	.35	.48	.36	.40	.35	.20
EPA-SF	I'm not all that concerned with other peoples' needs.	.71*	.29	.34	.33	.47	.26	.25
EPA-SF	I have more important things to worry about than other people's feelings.	.69*	.22	.27	.41	.44	.35	.18
CAT-PD	I should get special privileges.	.49	.67*	.43	.23	.39	.22	.19
FFNI-SF	I believe I am entitled to special accommodations.	.38	.63*	.25	.26	.34	.21	.25
CAT-PD	I believe that I am better than others.	.55	.62*	.32	.24	.39	.38	.17
CAT-PD	I treat people as inferiors.	.55	.56*	.53	.29	.38	.24	.24
FFNI-SF	I deserve to receive special treatment.	.30	.54*	.21	.15	.28	.14	.17
CAT-PD	I like to start fights.	.33	.22	.68*	.31	.24	.30	.31
CAT-PD	I am excited to inflict pain on others.	.45	.28	.67*	.25	.38	.14	.22
CAT-PD	I insult people.	.47	.32	.64*	.34	.49	.33	.28
CAT-PD	I deceive people.	.49	.44	.63*	.37	.62	.22	.24
CAT-PD	I have exploited others for my own gain.	.45	.48	.62*	.36	.60	.26	.22
FFNI-SF	I have at times gone into a rage when not treated rightly.	.17	.28	.34	.58*	.16	.38	.31
EPA-SF	I often think that others aren't telling me the whole truth.	.25	.12	.19	.56*	.31	.28	.19
FFNI-SF	It really makes me angry when I don't get what I deserve.	.25	.44	.25	.55*	.25	.39	.26
FFNI-SF	I feel enraged when people disrespect me.	.16	.26	.16	.54*	.10	.39	.21
FFNI-SF	I hate being criticized so much that I can't control my temper when it happens.	.22	.36	.32	.50*	.17	.27	.18
PiCD	I am a manipulative person.	.47	.42	.51	.33	.71*	.38	.31
PiCD	I have successfully deceived and manipulated persons.	.37	.32	.52	.36	.71*	.45	.33
EPA-SF	I find it easy to manipulate others.	.42	.25	.40	.31	.69*	.49	.34
FFNI-SF	It is easy to get people to do what I want.	.40	.34	.40	.31	.68*	.55	.37
FFMI	Sometimes you have to lie to get things done.	.40	.29	.30	.43	.68*	.32	.29
CAT-PD	I like having authority over others.	.27	.47	.31	.39	.39	.66*	.23
CAT-PD	I boss people around.	.23	.42	.36	.42	.32	.57*	.10
CAT-PD	I insist that others do things my way.	.38	.49	.33	.43	.29	.57*	.11
FFNI-SF	I can talk my way into and out of anything.	.24	.21	.26	.19	.48	.56*	.43
CAT-PD	I have a strong need for power.	.35	.49	.37	.44	.38	.54*	.23
FFNI-SF	I am a bit of a daredevil.	.24	.19	.33	.23	.31	.36	.72*

FFNI-SF	I will try almost anything to get my “thrills.”	.34	.45	.40	.37	.38	.33	.64*
CAT-PD	I have always been a rule-breaker.	.33	.29	.51	.25	.44	.34	.62*
CAT_PD	I have a rebellious side that gets me into trouble.	.21	.27	.49	.36	.40	.37	.60*
CAT-PD	I have done many things for which I could have been (or was) arrested.	.15	.19	.44	.19	.35	.23	.48*

Note. An asterisk indicates that the item is among the five highest loading items for that factor; however, only example items are shown from measures where publication of items is allowable by the original authors. EPA-SF = Elemental Psychopathy Assessment – Short Form; FFMI = Five Factor Machiavellianism Scale; FFNI-SF = Five Factor Narcissism Inventory – Short Form; PiCD = Personality Inventory of ICD-11; CAT-PD = Computerized Adaptive Test of Personality Disorder; Factor 7.1 = Callousness; Factor 7.2 = Grandiosity; Factor 7.3 = Aggression; Factor 7.4 = Suspiciousness; Factor 7.5 = Manipulation; Factor 7.6 = Domineering; Factor 7.7 = Risk Taking.

Table 3

Factor Score Correlations with Antagonism scales

	Callousness	Grandiosity	Aggression	Suspiciousness	Manipulation	Domineering	Risk Taking
	F7.1	F7.2	F7.3	F7.4	F7.5	F7.6	F7.7
EPA-SF	.82^a	.31 ^b	.48 ^{ce}	<u>.56^c</u>	.72^d	.42 ^e	.28 ^b
Callousness	.81^a	.21 ^b	.35 ^c	.42 ^{cd}	.46 ^d	.37 ^{cd}	.22 ^b
Coldness	<u>.55^a</u>	.18 ^b	.23 ^{bc}	.17 ^b	.33 ^c	.06 ^d	.00 ^d
Distrust	.36 ^a	.06 ^b	.21 ^{ce}	<u>.60^d</u>	.40 ^a	.23 ^c	.11 ^{be}
Manipulation	<u>.53^a</u>	.38 ^b	<u>.51^{ac}</u>	.42 ^{bc}	.85^d	.49 ^{ace}	.40 ^{be}
Self-Centered	.85^a	.32 ^{be}	.46 ^c	.42 ^{bc}	<u>.57^d</u>	.35 ^{bce}	.25 ^e
FFMI	.77^a	.41 ^{bd}	.44 ^{bcd}	<u>.53^c</u>	.72^a	<u>.50^{bc}</u>	.34 ^d
Callousness	.81^a	.26 ^b	.40 ^c	.45 ^c	.48 ^c	.43 ^c	.25 ^b
Cynical	.29 ^{ad}	.00 ^b	.21 ^{ad}	.41 ^c	.31 ^{ac}	.17 ^d	.04 ^b
Immodesty	.44 ^a	.42 ^a	.19 ^b	.23 ^b	.46 ^a	<u>.51^a</u>	.27 ^b
Manipulativeness	.44 ^a	.37 ^a	.37 ^a	.43 ^a	.78 ^b	.40 ^a	.40 ^a
Selfishness	.73^a	.41 ^{bc}	.36 ^b	.30 ^b	.46 ^c	.18 ^d	.17 ^d
FFNI-SF	.72^a	<u>.64^{bc}</u>	<u>.58^c</u>	<u>.68^{ab}</u>	.74^a	<u>.64^b</u>	<u>.62^{bc}</u>
Arrogance	<u>.60^a</u>	<u>.63^a</u>	.33 ^b	.34 ^b	.41 ^{bc}	.49 ^{cd}	.40 ^{bd}
Distrust	.38 ^{ae}	.11 ^b	.20 ^{bd}	<u>.63^c</u>	.42 ^e	.28 ^{ad}	.15 ^b
Entitlement	.46 ^a	.74^b	.35 ^{cd}	.29 ^c	.43 ^{ad}	.29 ^c	.31 ^c
Exploitativeness	.87^a	.32 ^{bd}	.40 ^b	.41 ^{bc}	.47 ^c	.33 ^{bd}	.26 ^d
Lack of Empathy	.42 ^a	.36 ^a	.44 ^a	.34 ^a	.75^b	<u>.62^c</u>	.45 ^a
Manipulativeness	.27 ^{ad}	.44 ^{be}	.37 ^{ab}	.72^c	.22 ^d	.49 ^e	.33 ^{abd}
Reactive Anger	.31 ^a	.34 ^{ab}	.43 ^{bc}	.33 ^{ac}	.41 ^{bc}	.41 ^{ab}	.82^d
Thrill-seeking	<u>.67^a</u>	<u>.58^b</u>	.48 ^{bc}	.45 ^c	.80^d	.38 ^c	.40 ^c
PiCD							
Dissocial	<u>.62^{ad}</u>	.43 ^b	<u>.67^a</u>	<u>.56^d</u>	.74^c	<u>.69^{ac}</u>	<u>.56^d</u>
PID-5-BFB	<u>.64^a</u>	.73^b	<u>.59^{ac}</u>	<u>.52^{ce}</u>	.82^d	<u>.55^{ac}</u>	.45 ^e
Attention Seeking	.06 ^a	<u>.63^b</u>	.26 ^c	.43 ^d	.31 ^{ce}	.47 ^d	.38 ^{de}
Callousness	.83^a	.46 ^{be}	<u>.62^c</u>	.37 ^{bd}	<u>.52^e</u>	.31 ^d	.30 ^d
Deceitfulness	<u>.58^a</u>	<u>.65^a</u>	<u>.57^a</u>	<u>.57^a</u>	.79^b	.43 ^c	.38 ^c
Grandiosity	<u>.63^a</u>	.78^b	.45 ^{cd}	.35 ^d	.48 ^c	.39 ^{cd}	.31 ^d

Hostility	.49 ^{ab}	<u>.52^{ad}</u>	<u>.50^{ab}</u>	.41 ^b	.80^c	<u>.58^a</u>	.46 ^{bd}
Manipulativeness	.32 ^{ad}	.34 ^a	<u>.55^b</u>	.73 ^c	.22 ^e	.42 ^a	.20 ^{de}
CAT-PD	.71 ^a	.66 ^{ab}	.86 ^c	.58 ^b	.68 ^a	.58 ^b	.46 ^d
Callousness	.87^a	.44 ^b	<u>.60^c</u>	.39 ^{bd}	.48 ^b	.33 ^{de}	.22 ^e
Domineering	.44 ^a	<u>.63^b</u>	<u>.50^{ac}</u>	<u>.54^c</u>	.47 ^{ac}	.77^d	.22 ^e
Grandiosity	<u>.65^a</u>	.81^b	<u>.54^c</u>	.37 ^{de}	.47 ^{ce}	.45 ^{ce}	.29 ^d
Hostile Aggression	<u>.56^a</u>	.45 ^{bd}	.87^c	.54 ^{ab}	<u>.52^a</u>	.40 ^d	.40 ^d
Manipulativeness	<u>.63^a</u>	<u>.59^a</u>	.76^b	.47 ^c	.76^b	.32 ^{cd}	.31 ^d
Norm Violation	.31 ^a	.32 ^a	<u>.66^b</u>	.29 ^a	<u>.50^c</u>	.30 ^a	<u>.64^b</u>
Rudeness	.42 ^a	.40 ^a	.76^b	<u>.54^c</u>	<u>.52^c</u>	<u>.53^c</u>	.45 ^{ac}
DAPP-BQ	<u>.53^a</u>	<u>.67^b</u>	<u>.52^a</u>	.80^c	<u>.62^b</u>	.73^c	<u>.67^b</u>
Callousness	.80^a	<u>.63^{bc}</u>	<u>.58^{bd}</u>	<u>.65^{bc}</u>	<u>.69^c</u>	<u>.52^{de}</u>	.47 ^e
Narcissism	.13 ^a	<u>.65^b</u>	.18 ^a	<u>.58^{bd}</u>	.32 ^c	<u>.52^d</u>	.38 ^c
Rejection	.43 ^a	<u>.54^b</u>	.44 ^a	<u>.66^c</u>	.44 ^a	.90^d	.42 ^a
Stimulus Seeking	.28 ^a	.38 ^{ab}	.42 ^b	.36 ^{ab}	.41 ^b	.40 ^b	.90^c
Suspiciousness	.45 ^{ab}	.36 ^{ad}	.39 ^{ae}	.83^c	<u>.52^b</u>	.45 ^a	.33 ^{bde}

Note. All correlations greater than or equal to $|r| = .12$ are significant at $p < .01$; r s between .50 to .69 are underlined; r s between .70 - .89 are bolded; r s above .90 are bolded and underlined; At each factor level, correlations in the same row with different superscripts are significantly different from one another at $p < .01$; EPA-SF = Elemental Psychopathy Assessment — Short Form; FFMI = Five Factor Machiavellianism Inventory; FFNI-SF = Five Factor Narcissism Inventory — Short Form; PiCD = Personality Inventory of ICD-11; PID-5-FBF = Personality Inventory for DSM-5 — Faceted Brief Form; CAT-PD = Computerized Adaptive Test of Personality Disorder; DAPP-BQ = Dimensional Assessment of Personality Pathology – Basic Questionnaire.

Table 4

Factor Score Correlations with the Five-Factor Model

	Callousness	Grandiosity	Aggression	Suspiciousness	Manipulation	Domineering	Risk Taking
	F7.1	F7.2	F7.3	F7.4	F7.5	F7.6	F7.7
Neuroticism	-.05 ^a	.21 ^b	.21 ^b	.46 ^c	.04 ^a	-.03 ^a	-.03 ^a
Anxiety	-.26 ^a	-.01 ^b	-.11 ^{bc}	.19 ^d	-.16 ^{ce}	-.09 ^{bc}	-.16 ^{ae}
Anger	.12 ^a	.20 ^a	.41 ^b	.55 ^c	.08 ^d	.28 ^e	.15 ^{ae}
Depression	.01 ^a	.13 ^{bc}	.23 ^c	.42 ^d	.15 ^{bc}	.00 ^a	.03 ^{ab}
Self-con.	-.01 ^a	.15 ^b	.03 ^a	.26 ^b	.02 ^a	-.19 ^c	-.12 ^c
Impulsiveness	.00 ^a	.21 ^b	.17 ^{bc}	.19 ^{bc}	.12 ^{bd}	.02 ^{ad}	.08 ^{ac}
Vulnerability	-.09 ^a	.14 ^{bcd}	.05 ^{bd}	.16 ^b	-.08 ^{ad}	-.16 ^a	-.09 ^{ac}
Extraversion	-.19 ^a	-.01 ^b	-.13 ^a	-.16 ^a	-.10 ^{ab}	.29 ^c	.28 ^c
Friendliness	-.18 ^{ab}	-.07 ^a	-.15 ^{ab}	-.24 ^b	-.10 ^a	.15 ^c	.15 ^c
Gregariousness	-.11 ^a	.05 ^{bc}	-.04 ^a	-.13 ^a	-.05 ^{ab}	.14 ^c	.30 ^d
Assertiveness	-.06 ^a	.07 ^b	.01 ^a	-.01 ^{ab}	-.01 ^{ab}	.42 ^c	.06 ^a
Activity Level	-.14 ^a	-.08 ^{ab}	-.13 ^a	.00 ^{bc}	-.11 ^{ac}	.15 ^d	.02 ^b
Excite-Seeking	-.12 ^a	.07 ^b	.02 ^b	.01 ^b	.03 ^b	.23 ^c	.44 ^d
Cheerfulness	-.19 ^{ab}	-.08 ^{ab}	-.24 ^{ac}	-.30 ^a	-.17 ^{bc}	.08 ^d	.13 ^d
Openness	-.24 ^a	.00 ^{bc}	-.02 ^{bc}	-.03 ^b	-.01 ^b	.04 ^{bc}	.10 ^c
Imagination	-.09 ^a	.09 ^{bc}	-.06 ^{ac}	.06 ^b	.04 ^{bc}	.12 ^b	.09 ^b
Aesthetics	-.23 ^a	-.06 ^{bc}	-.12 ^b	-.06 ^{bc}	-.06 ^b	-.05 ^{bc}	.04 ^c
Emotionality	-.35 ^a	.05 ^b	.00 ^b	.14 ^c	-.14 ^d	.03 ^b	.01 ^b
Adventurousness	-.08 ^a	-.07 ^a	.02 ^a	-.21 ^b	-.03 ^a	.03 ^a	.21 ^c
Intellect	-.09 ^a	-.01 ^{ab}	.05 ^b	-.08 ^a	.07 ^b	.11 ^b	.06 ^b
Liberalism	-.01	.00	.03	.03	.05	-.07	-.03
Agreeableness	-.76 ^a	-.46 ^{be}	-.58 ^{bc}	-.49 ^{bd}	-.62 ^c	-.43 ^d	-.30 ^e
Trust	-.33 ^a	-.06 ^b	-.26 ^{ac}	-.47 ^d	-.30 ^{ac}	-.13 ^{be}	-.03 ^b
Morality	-.50 ^a	-.36 ^b	-.49 ^b	-.34 ^c	-.62 ^d	-.22 ^e	-.25 ^{ce}
Altruism	-.73 ^a	-.34 ^{bc}	-.45 ^c	-.27 ^{bc}	-.43 ^d	-.21 ^b	-.18 ^b

Cooperation	-.44 ^a	-.31 ^b	-.62 ^c	-.42 ^a	-.49 ^a	-.36 ^{ab}	-.26 ^b
Modesty	-.36 ^a	-.46 ^a	-.15 ^{bc}	-.11 ^b	-.25 ^c	-.45 ^{ad}	-.22 ^{bc}
Sympathy	-.47 ^a	-.17 ^b	-.19 ^b	-.21 ^b	-.24 ^b	-.21 ^b	-.15 ^b
Conscientiousness	-.27 ^a	-.35 ^{ab}	-.51 ^c	-.33 ^{ad}	-.40 ^{bd}	-.04 ^e	-.37 ^{ad}
Self-efficacy	-.08 ^a	-.19 ^{ac}	-.28 ^b	-.20 ^{bc}	-.17 ^{ac}	.13 ^d	-.11 ^{ac}
Orderliness	-.11 ^a	-.22 ^{ab}	-.31 ^b	-.15 ^{ac}	-.28 ^{bd}	-.07 ^c	-.18 ^{acd}
Dutifulness	-.38 ^a	-.31 ^{ab}	-.40 ^a	-.31 ^{ab}	-.39 ^a	-.08 ^c	-.19 ^{bc}
Achieve Strive	-.26 ^{ae}	-.22 ^{ace}	-.41 ^b	-.12 ^c	-.32 ^{ab}	.07 ^d	-.15 ^{ce}
Self-discipline	-.16 ^a	-.21 ^{ac}	-.31 ^b	-.28 ^{bc}	-.26 ^b	.04 ^d	-.20 ^{ab}
Cautiousness	-.17 ^a	-.27 ^{ab}	-.37 ^c	-.29 ^{bcd}	-.26 ^{ad}	-.18 ^a	-.56 ^e

Note. All correlations greater than or equal to $|r| = .12$ are significant at $p < .01$. At each factor level, correlations in the same row with different superscripts are significantly different from one another at $p < .01$.

Table 5

Multivariate Relations and General Dominance Values for Factor Scores and the Five-Factor Domains

	Callousness			Grandiosity			Aggression			Suspiciousness			Manipulation			Domineering			Risk Taking		
	F7.1			F7.2			F7.3			F7.4			F7.5			F7.6			F7.7		
	β	GDW	%	β	GDW	%	β	GDW	%	β	GDW	%	β	GDW	%	β	GDW	%	β	GDW	%
Neurotic.	-.14	.012	2%	.18	.032	11%	.08	.022	5%	.46	.178	41%	-.08	.004	1.0%	.10	.004	1%	-.07	.012	3%
Extra.	-.08	.021	3%	.21	.013	4%	.11	.006	1%	.11	.008	2%	.07	.005	1.1%	.41	.114	32%	.45	.125	33%
Open.	-.12	.039	6%	.02	.002	1%	-.01	.003	1%	-.02	.003	1%	.05	.003	.79%	.12	.008	2%	.09	.011	3%
Agree.	-.71	.494	81%	-.43	.180	60%	-.47	.257	57%	-.47	.205	47%	-.56	.323	73.9%	-.55	.219	62%	-.25	.078	21%
Conscien.	-.07	.041	7%	-.19	.072	24%	-.35	.163	36%	-.03	.041	9%	-.26	.102	23.2%	.07	.009	3%	-.45	.151	40%
R^2		.61			.30			.45			.44			.44			.35			.38	

Note. GDW = General Dominance Weight; Neurotic. = Neuroticism; Extra. = Extraversion; Open = Openness; Agree. = Agreeableness; Conscien. = Conscientiousness

Table 6

Factor Scores Correlations with External Criterion Measures

	Callousness	Grandiosity	Aggression	Suspiciousness	Manipulation	Domineering	Risk Taking
	F7.1	F7.2	F7.3	F7.4	F7.5	F7.6	F7.7
<i>CAB</i>							
Substance Use	.08 ^a	.14 ^a	.30 ^{bc}	.17 ^a	.29 ^{bc}	.19 ^{ab}	.39 ^c
Antisocial Behavior	.17 ^{ab}	.10 ^a	.30 ^c	.25 ^{bc}	.34 ^{bc}	.24 ^{bc}	.27 ^{bc}
<i>Aggression</i>							
Proactive Aggression	.24 ^{ab}	.17 ^a	.45 ^c	.32 ^b	.34 ^b	.33 ^b	.34 ^{bc}
Reactive Aggression	.18 ^a	.20 ^{ac}	.39 ^b	.52 ^d	.22 ^{ae}	.41 ^b	.32 ^{cbe}
<i>Promis</i>							
Anxiety	-.07 ^a	.12 ^b	.08 ^{bc}	.34 ^d	.04 ^b	.01 ^{ab}	-.04 ^{ac}
Depression	.02 ^a	.12 ^{ab}	.19 ^b	.43 ^c	.11 ^{ab}	.03 ^a	.03 ^a
<i>Interpersonal Adjectives</i>							
Love	-.74 ^a	-.31 ^{be}	-.54 ^c	-.47 ^{cd}	-.56 ^c	-.40 ^{bd}	-.27 ^e
Dominance	-.04 ^{ab}	.07 ^{ac}	.06 ^{ac}	-.09 ^b	.11 ^c	.42 ^d	.29 ^e
Assured - Dominant	.19 ^a	.13 ^a	.16 ^a	.11 ^a	.18 ^a	.57 ^b	.23 ^a
Arrogant - Calculating	.45 ^{ad}	.39 ^{ab}	.45 ^{ad}	.30 ^b	.58 ^e	.52 ^{dc}	.45 ^{ac}
Cold-Hearted	.76 ^a	.32 ^b	.53 ^{cd}	.45 ^{ce}	.55 ^d	.42 ^{be}	.36 ^b
Aloof-Introverted	.48 ^a	.19 ^b	.33 ^{cd}	.42 ^{ac}	.30 ^{bd}	.06 ^e	-.02 ^e
Unassured-Submissive	.03 ^{ad}	.05 ^{ad}	-.06 ^a	.12 ^d	-.04 ^a	-.31 ^b	-.19 ^c
Unassuming-Ingenuous	-.15 ^{ac}	-.14 ^{ac}	-.22 ^{ad}	-.10 ^c	-.28 ^{bd}	-.37 ^b	-.26 ^{ad}
Warm-Agreeable	-.68 ^a	-.21 ^{bd}	-.42 ^c	-.35 ^c	-.42 ^c	-.32 ^{bc}	-.18 ^d
Gregarious-Extraverted	-.42 ^a	-.09 ^b	-.27 ^c	-.31 ^c	-.22 ^c	.04 ^d	.10 ^d

Note. All correlations greater than or equal to $|r| = .12$ are significant at $p < .01$. At each factor level, correlations in the same row with different superscripts are significantly different from one another at $p < .01$.

Table 7

Profile Similarity of Antagonism Factors and Factor Score Correlations

	F1.1	F2.1	F2.2	F3.1	F3.2	F3.3	F4.1	F4.2	F4.3	F4.4	F5.1	F5.2	F5.3	F5.4	F5.5	F6.1	F6.2	F6.3	F6.4	F6.5	F6.6	F7.1	F7.2	F7.3	F7.4	F7.5	F7.6	F7.7
F1.1		.92	.91	.90	.87	.83	.88	.83	.81	.72	.86	.76	.76	.74	.72	.84	.74	.75	.76	.81	.46	.81	.71	.74	.71	.78	.66	.55
F2.1	<u>.97</u>		.68	1.00	.65	.67	.99	.63	.66	.54	.99	.60	.63	.55	.54	.98	.60	.61	.59	.75	.24	.96	.61	.68	.53	.72	.43	.37
F2.2	.95	.85		.65	.96	.85	.60	.89	.82	.79	.58	.80	.77	.82	.79	.55	.75	.76	.82	.73	.62	.52	.70	.67	.78	.71	.79	.66
F3.1	<u>.96</u>	<u>1.00</u>	.83		.63	.62	1.00	.61	.61	.53	.99	.59	.58	.54	.53	.98	.59	.56	.57	.73	.23	.97	.60	.65	.52	.70	.41	.32
F3.2	.93	.84	<u>.99</u>	<u>.83</u>		.68	.58	.93	.64	.81	.55	.83	.57	.85	.80	.53	.77	.56	.84	.67	.69	.51	.72	.52	.82	.64	.84	.50
F3.3	.94	.85	.97	.82	.93		.60	.64	1.00	.57	.58	.57	.98	.58	.60	.55	.56	.98	.60	.71	.33	.50	.51	.83	.52	.70	.52	.79
F4.1	<u>.95</u>	<u>1.00</u>	.81	<u>1.00</u>	.81	.81		.57	.59	.48	1.00	.54	.57	.49	.48	.99	.56	.54	.53	.71	.18	.98	.57	.64	.47	.69	.36	.29
F4.2	.87	.77	.95	.76	<u>.96</u>	.90	.74		.61	.54	.53	.96	.54	.60	.74	.50	.92	.52	.60	.65	.63	.49	.87	.43	.59	.64	.76	.51
F4.3	.93	.84	.97	.82	.92	<u>1.00</u>	.80	.90		.53	.57	.55	.99	.54	.57	.53	.53	.98	.57	.70	.30	.49	.49	.83	.48	.69	.49	.79
F4.4	.90	.83	.91	.82	.94	.85	<u>.80</u>	.81	.84		.48	.39	.48	.98	.65	.48	.33	.48	.96	.54	.55	.45	.29	.54	.94	.48	.69	.36
F5.1	<u>.94</u>	<u>1.00</u>	.80	<u>1.00</u>	.80	.80	<u>1.00</u>	.73	.79	.80		.50	.55	.49	.47	.99	.52	.53	.53	.70	.16	.98	.53	.64	.47	.68	.34	.28
F5.2	.83	.73	.91	.72	<u>.93</u>	.87	.70	<u>.98</u>	.87	.79	.69		.51	.50	.52	.47	.99	.49	.52	.54	.45	.46	.97	.42	.51	.52	.61	.43
F5.3	.92	.83	<u>.96</u>	.81	.91	<u>1.00</u>	.79	.88	<u>1.00</u>	.84	<u>.78</u>	.86		.50	.45	.52	.52	.99	.54	.64	.18	.46	.48	.86	.45	.62	.40	.76
F5.4	.88	.81	.90	.80	<u>.93</u>	.84	.78	.79	.83	<u>1.00</u>	.78	.78	.83		.58	.48	.45	.5	.99	.51	.50	.45	.42	.57	.97	.44	.67	.35
F5.5	.83	.74	.88	.73	.88	.84	.71	.94	.84	.72	.70	.86	.80	.67		.45	.42	.46	.53	.74	.83	.46	.34	.32	.51	.77	.83	.53
F6.1	.93	<u>.99</u>	.79	<u>.99</u>	.79	.78	<u>1.00</u>	.73	.77	.78	<u>1.00</u>	.68	.76	.76	.72		.49	.51	.51	.62	.20	.99	.49	.61	.44	.60	.36	.27
F6.2	.83	.74	.90	.73	.91	.86	.71	<u>.95</u>	.86	.79	.70	<u>.99</u>	.86	.79	.81	.69		.49	.49	.51	.33	.47	.99	.44	.48	.48	.52	.39
F6.3	.91	.81	<u>.96</u>	.79	<u>.91</u>	<u>1.00</u>	.77	.90	<u>1.00</u>	.82	.76	.87	<u>1.00</u>	.81	<u>.84</u>	.75	<u>.87</u>		.52	.57	.25	.46	.44	.84	.43	.56	.45	.80
F6.4	.88	.81	.88	.80	.90	.83	.79	.75	.81	<u>.99</u>	.79	.75	.83	<u>.99</u>	.62	.76	<u>.77</u>	<u>.80</u>		.55	.40	.47	.47	.62	.97	.47	.60	.33
F6.5	<u>.97</u>	.94	.92	<u>.94</u>	.91	.93	<u>.93</u>	.86	<u>.93</u>	.88	.92	.83	<u>.93</u>	.87	.79	<u>.90</u>	.84	<u>.91</u>	.87		.25	.60	.50	.58	.52	.99	.39	.39
F6.6	.42	.31	<u>.54</u>	.29	<u>.56</u>	.47	.27	<u>.76</u>	.47	.33	.26	.58	.41	.28	<u>.82</u>	.29	<u>.49</u>	.48	.20	.33		.23	.22	.06	.40	.29	.93	.47
F7.1	.92	<u>.98</u>	.77	<u>.99</u>	.77	.76	<u>.99</u>	.72	.75	.76	<u>.99</u>	.68	.74	.74	.72	<u>1.00</u>	.68	.73	.74	.89	.30		.47	.52	.43	.59	.35	.29
F7.2	.81	.75	.86	.74	.89	.83	.72	<u>.90</u>	.83	.80	.71	<u>.96</u>	.85	.81	.73	.70	<u>.99</u>	.84	.79	.85	.36	.69		.44	.46	.47	.42	.32
F7.3	<u>.96</u>	.91	<u>.94</u>	.89	<u>.92</u>	<u>.95</u>	.88	.84	<u>.95</u>	.92	.88	.83	<u>.96</u>	.91	.75	.86	.84	<u>.94</u>	.92	.97	.30	.83	<u>.85</u>		.45	.52	.38	.36
F7.4	.83	.77	.85	.76	.87	.78	.74	.72	.77	<u>.97</u>	.74	.73	.79	<u>.99</u>	.57	.71	.75	.75	<u>.99</u>	.84	.14	.69	.79	<u>.88</u>		.46	.54	.36
F7.5	<u>.96</u>	.93	.92	.92	.91	.94	.92	.88	.93	.86	.91	.85	.93	.83	.84	.90	.86	.92	.83	<u>.99</u>	.40	<u>.89</u>	<u>.85</u>	<u>.95</u>	<u>.79</u>		.40	.42
F7.6	.70	.58	.80	.57	.82	.73	.54	.89	.73	.64	.53	.81	.68	.59	<u>.95</u>	.55	.74	.73	.52	.62	<u>.93</u>	.55	.64	.62	.47	<u>.67</u>		.46
F7.7	.68	.54	.81	.52	.77	.85	.49	.85	.85	.57	.48	.83	.84	.55	.83	.48	.79	.88	.51	.66	.69	.47	.71	.69	.47	.71	<u>.81</u>	

Note. The lower diagonal depicts the *profile similarity* of the factors as measured by the Pearson correlation coefficient of the profiles from Tables 4 and 6. The factors with the most similar profiles at each level of the analysis are underlined. The upper diagonal identifies the Pearson correlations of the factor scores across each of the levels.

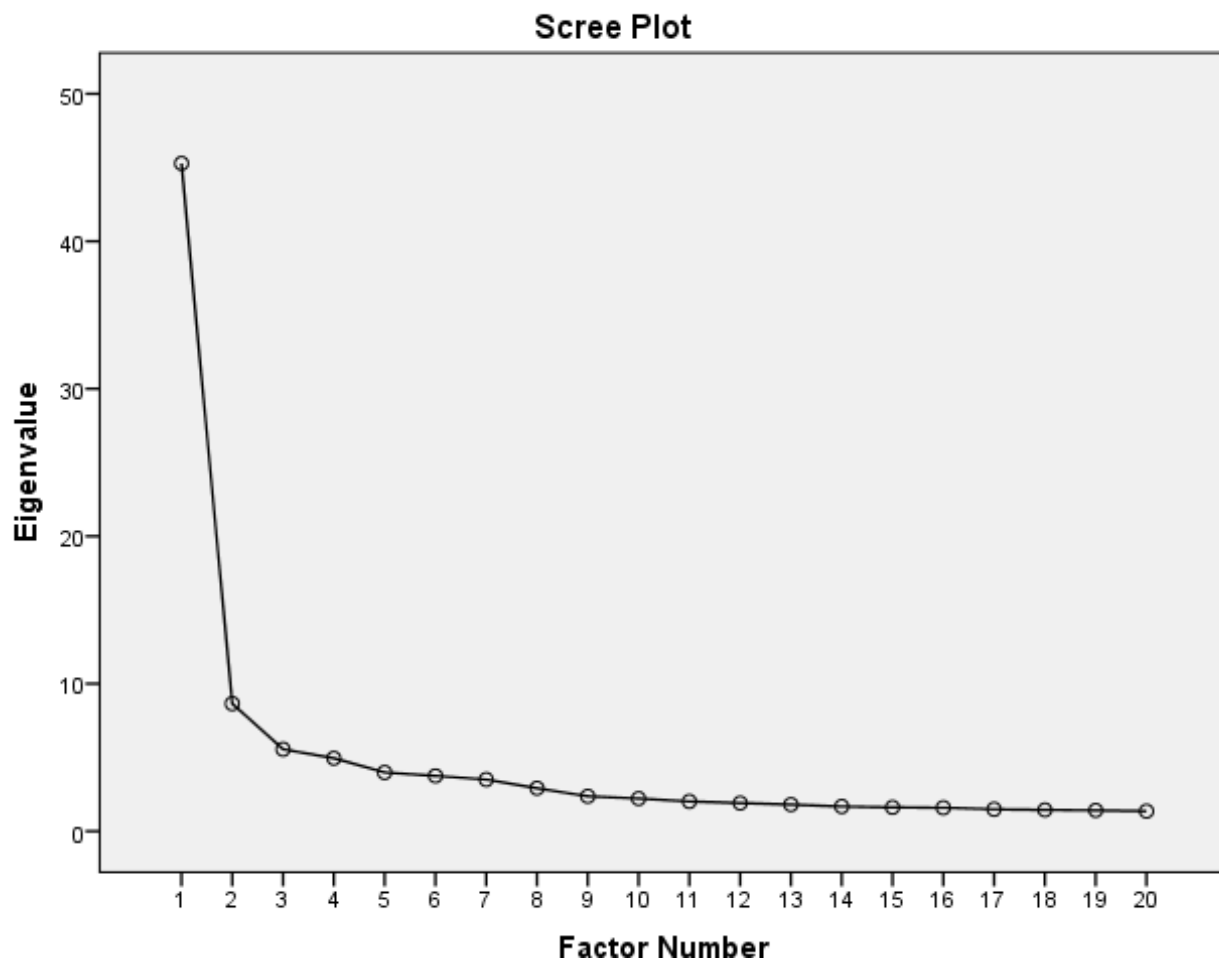


Figure 1.
Antagonism Parallel Analysis

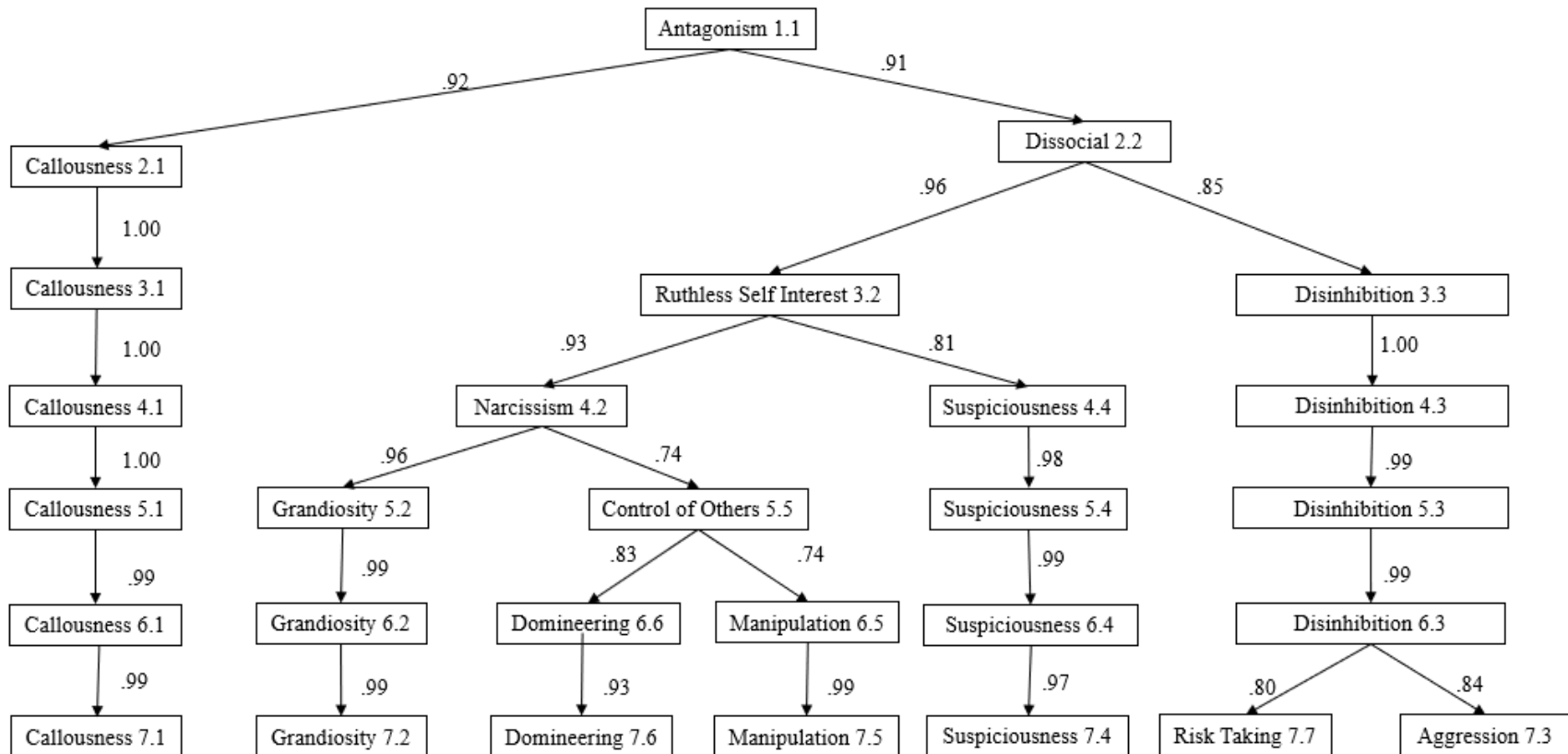


Figure 2. Hierarchical Structure of Antagonism

Note. Only correlations going from one level of the hierarchy to the next are depicted.

CHAPTER 4

DISCUSSION

Across theoretical models, Antagonism is characterized by traits related to callousness, a lack of remorse, grandiosity, manipulation, and aggression. It represents the core of many pathological personality constructs (e.g., psychopathy, narcissism, antisocial personality disorder), and demonstrates significant links to harmful externalizing outcomes (e.g., substance use, crime, antisocial behavior, aggression; see Lynam & Miller, 2019, for a review), which come at a high interpersonal and societal cost. Despite its inclusion in every major model of personality – general and pathological (e.g., Five-Factor Model, *DSM-5* Alternative Model of Personality Disorder) – there is a paucity of work empirically examining its lower-order structure. Nevertheless, with the advancement of the quantitative classification movement (i.e., HiTOP; Kotov et al., 2017), researchers are beginning to work towards identifying empirically derived, comprehensive lower-order structures of broad spectra. Given the importance of Antagonism, as well as its critical relations to a host of maladaptive and costly outcomes, the aim of the present investigation was to use a quantitative approach to identify the optimum lower-order structure of Antagonism. To do so, Goldberg’s “Bass-ackward” factor-analytic approach was used to identify and describe features of Antagonism at varying levels of specificity based on the items from a wide variety of measures of antagonism. This analytic strategy involves conducting a series of factor analyses conducted in a stepwise fashion in which one first extracts a single factor, followed by two factors, etc. – until one reaches a point at which further

extraction of factors yields overly narrow, small, or uninterpretable factors. One can then correlate factors across and between levels to understand how various factors unfold from broader factor existing at higher level of a hierarchy.

The Structure of Antagonism

To derive the most comprehensive representation of Antagonism, all Antagonism items were intermixed and administered to participants. At the broadest level, the first, unrotated Antagonism factor represents items characterized by callous-unemotional, domineering, manipulative, aggressive, and impulsive behavior as well as by a grandiose self-interest and a general suspiciousness towards others. This factor accounted for 23% of the variance in the item pool and was relatively well-captured by extant measures, as evidenced by its robust relations with all Antagonism domain scores (*mean* $r = .86$) and well as disagreeableness from a measure of general or normative personality (i.e., IPIP-NEO Agreeableness, $r = -.77$).

At the second level of analysis, the emergent factors – Callousness [F2.1] and Dissocial [F2.2] – largely converge with DeYoung and colleagues (2007) and Crowe and colleagues (2019) work examining the structure of Agreeableness and accounted for an additional 5% of the variance. In both studies, at the two-factor level, researchers identified one factor characterized by warmth, empathy, and tenderness (i.e., Compassion) and another factor characterized by morality as well as respect and consideration for others (i.e., Politeness [DeYoung et al., 2007]; Civility [vs. Incivility; Crowe et al., 2018]). The present findings suggest that Antagonism can be similarly organized. Indeed, the first identified factor, Callousness (F2.1), evinced its largest relation with scales capturing callousness (e.g., DAPP-BQ Callousness) and exhibited significant, negative relations with altruistic behavior. It is noteworthy that Callousness remained stable throughout the remaining factor extractions (see Figure 2), as was the case for Crowe et

al.'s (2018) Compassion factor; thus, suggesting that these characteristics are indeed central to and well-represented at both ends of the Antagonism—Agreeableness spectrum. The Dissocial factor (F2.1), on the other hand, was composed of much more diverse item content and was generally characterized by hostile, deceitful, domineering behavior as well as a general suspiciousness towards others and a willingness to manipulate others. Given its heterogeneous nature, it yielded the remainder of the successive factors, which was similarly observed by Crowe and colleagues' (2018) for their second factor, Civility (vs. Incivility).

At the third level of analyses, the structure of Antagonism begins to depart from Crowe and colleagues' (2019) findings. For instance, at the third level of analyses, Crowe et al. (2018) found that Compassion (vs. Callousness) and Civility (vs. Incivility) remained largely intact, and a new unique factor related to Trust (vs. Distrust) emerged. In the present study, although Callousness remained largely intact, the Dissocial factor split to yield two unique factors described by Ruthless Self-Interest (F3.2) and Disinhibition (F3.3). Ruthless Self-Interest was characterized by heterogeneous item content and yielded most of the remaining factors at the subsequent levels of analyses. Ruthless Self-Interest is defined by a desire for authority over others, a willingness to exploit or manipulate others, a sense of grandiosity, as well as suspicion. The third factor, Disinhibition, defined by rebellious, thrill seeking behavior, was found to be comprised of relatively homogeneous content, and once it emerged, it remained relatively stable until the seventh solution. The fact that this disinhibition factor was not found in previous work on Agreeableness is likely due, in part, to the inputs used here but not in previous studies – scales related to risk taking that load on Antagonism factors in some models (e.g., DAPP-BQ) but actually seem to live on trait domains related to Conscientiousness vs. Disinhibition. The three factors explained an additional 3% of variance in the item pool.

At the four-factor level, Ruthless Self-Interest split into Narcissism (F4.2) and Suspiciousness (4.4). Narcissism was characterized by a grandiose sense of self-worth and a desire to have control over others and was most strongly related to DAPP-BQ, CAT-PD, and PID-5-FBF Antagonism scales, specifically, Rejection, Narcissism, Domineering, Grandiosity, and Manipulativeness. Suspiciousness was the third stable factor to emerge and it manifested its largest relations with DAPP-BQ Suspiciousness and Rejection, PID-5-FBF Hostility, and with FFNI-SF Reactive Anger and Distrust. At this level of analysis, Callousness (F4.1) and Suspiciousness (F4.4) appear to converge with Crowe and colleagues' (2019) identified factors Compassion (vs. Callousness) and Trust (vs. Distrust); however, Narcissism (F4.2) and Disinhibition (F4.3) appear to capture different content than Crowe and colleagues (2018) remaining factors, Morality (vs. Immorality) and Amiability (vs. Rudeness). The four factors accounted for an additional 3% variance.

At the five-factor level, Grandiosity (F5.2) and Control of Others (F5.5) emerged from the Narcissism factor (F4.2), while the other factors remain stable. Grandiosity was the fourth, stable factor to emerge and was defined by a sense of superiority and entitlement and appears to converge with Crowe et al.'s fifth factor, Modest (vs. Arrogance). Generally, the largest relations for this factor were observed with scales measuring grandiosity and entitlement (e.g., CAT-PD Grandiosity, PID-5-FBF Grandiosity, DAPP-BQ Narcissism, CAT-PD Domineering, and FFNI-SF Entitlement). Control of Others (F5.5), on the other hand, was characterized by heterogeneous item content and was defined by a willingness to exploit and manipulate others as well as domineering and antisocial behavior. Here, the largest relations were observed with all of the manipulateness scales included in this analysis (i.e., FFNI-SF, PID-5-FBF, EPA, and the FFMI) as well as scales related to hostile, dominant interpersonal behavior (e.g., DAPP-BQ

Rejection, CAT-PD Domineering). Although some notable differences exist, Control of Others (F5.5) appears to converge with Crowe and colleagues' (2018) factors Morality (vs. Immorality) and Amiability (vs. Rudeness), as evidenced by their overlapping features related to manipulation and hostility. The five factors accounted for an additional 2% variance.

At the sixth level of analysis, Control of Others (F5.5) split to yield the factors labeled, Manipulation (F6.5) and Domineering (F6.6), whereas the other previously identified factors remained stable. Manipulation (F6.5) was defined by relatively homogeneous item content and manifested the largest relations with all manipulative/exploitative scales included in the analyses (e.g., EPA Manipulation, PID-5-FBF Deceitfulness, FFNI Exploitativeness, CAT-PD Manipulativeness). Domineering (F6.6) was observed to be a similarly coherent factor and was defined by a desire for authority and domination over others as well as combativeness, as evidenced by its relations with DAPP-BQ Rejection and CAT-PD Domineering. Although Crowe and colleagues (2018) did not find support for a six-factor structure of Agreeableness, apart from Disinhibition (F6.3), the present factors appear to converge with Crowe et al.'s final, five-factor solution. The six factors accounted for an additional 2% variance.

At the final level of analysis, the Disinhibition (F6.3) factor split to yield factors that were labeled Aggression (F7.3) and Risk Taking (F7.7). Aggression was defined by hostile, aggressive, and rude behavior, and it manifested the largest relations with CAT-PD scales (e.g., Hostility, Manipulativeness, Rudeness, and Norm Violation). The final Risk Taking factor was characterized by thrill seeking and risk behavior. Apart from DAPP-BQ Stimulus Seeking and FFNI-SF Thrill Seeking, Risk Taking evinced moderate to small relations with other Antagonism scales. At the final level, considerable convergence was observed between the identified factors and Crowe and colleagues (2018) factors; however, when considering the full range of the

Agreeableness—Antagonism spectrum, some variation exists. Most notably, Risk Taking did not appear to converge with any of Crowe and colleagues (2018) identified factors. The seven factors accounted for an additional 2% variance.

In light of the present findings, it is crucial to consider how the identified structure is contingent upon the items used to represent Antagonism. Indeed, if at the initial step of the analyses, any component did not moderately load on to the general Antagonism factor, it was dropped from subsequent analyses. Therefore, if an important component was not sufficiently represented in the item pool, it would be unlikely to emerge as a factor. To try to minimize this potential limitation, commonly used measures of Antagonism from pathological trait models as well as from PD measures were used. Although this allowed for examining the structure of Antagonism, as it is commonly conceived, certain features (e.g., Callousness), which are well-represented in every model of Antagonism, appear to be the most central to Antagonism, whereas other, underrepresented features (e.g., thrill seeking) appear more peripheral in nature. Indeed, this likely most directly affected the final, identified factor, Risk-Taking, as items related to sensation seeking or thrill-seeking behavior was only represented in two measures and only represented 6% of the final item pool (i.e., 10 out of 170 items); however, other structural models of psychopathology, such as the HiTOP model, suggest that disinhibited externalization and antagonistic externalization both give rise to behavior well established in Antagonism's nomological net (e.g., antisocial behavior, substance use, antisocial personality disorder)⁴. Therefore, it is likely that given the relatively limited representation of thrill-seeking behavior in the final Antagonism item pool, the Risk Taking factor appears more peripheral in nature to the

⁴ To examine this issue, all items related to thrill-seeking were removed, and the bass-ackward analyses were repeated. After examining fit indices and item content, a six-factor solution was found to be the best fitting model. The newly identified factors were found to converge significantly with the original six-factor solution, such that convergent *rs* ranged from .91 to 1.00, with a mean of .98.

overarching conceptualization of Antagonism. However, its peripherality is supported by the dominance analyses discussed below in which this factor appears to “live” on a disinhibition domain more so than antagonism.

Criterion Validity

Relations with General Personality Traits

To assess the validity of the identified Antagonism factors, factors at each level were correlated with a range of relevant criterion variables (e.g., aggression, general personality traits). At the final level of analyses, significant divergence was generally found among the identified factors. For instance, dominance analyses, which determine the relative importance of predictors in a regression model, revealed that FFM Agreeableness was the only significant predictor of Callousness from the five FFM domains (F7.1); thus, supporting its centrality in Antagonism. For other identified factors, while still significantly underscored by Antagonism (mean dominance percentage = 57%), dominance analyses revealed that other FFM domains accounted for a significant amount of their variance. For instance, although Agreeableness was the most dominant predictor of Grandiosity (F7.2), Aggression (F7.3), and Manipulation (F7.5), Conscientiousness also accounted for significant variance in these factors, ranging from 23% (Manipulation; F7.5) to 36% (Aggression; F7.3). These findings support the close relation found between Antagonism and Disinhibition and the difficulty that is inherent to attempts to separate the two. Agreeableness was similarly able to account for the most variance in the Domineering (F7.6) factor; however, Extraversion accounted for a moderate amount of its variance as well. For Suspiciousness (F7.4), FFM Neuroticism and Agreeableness emerged as equally important predictors. Of the final, seven-factors, Risk Taking appeared to be the most peripheral, as more

limited relations were observed with Agreeableness and it instead most dominantly predicted by FFM Conscientiousness and Extraversion.

Relations with Other Criterion Measures

When considering the emergent factor's relations with other external criterion variables, divergent relations were similarly observed. For instance, Callousness (F7.1) appeared to be most purely related to callous-unemotional features (e.g., Dominance, low Altruism). Although Grandiosity (F7.2) was most robustly related to FFM Agreeableness and Modesty and an arrogant interpersonal style, contrary to previous work (Crowe et al., 2018; Crowe, Carter, Campbell, & Miller, 2016), Grandiosity exhibited null relations with FFM Extraversion. On the other hand, Aggression (F7.3) and Manipulation (F7.5) were each described by a cold-hearted, arrogant interpersonal style. Suspiciousness (F7.4) was most strongly characterized by anger, reactive aggression, and FFM (low) Agreeableness and Neuroticism. The Domineering factor (F7.6) manifested moderate to large relations with dominant, arrogant behavior as well reactive and proactive aggression. Unlike the other emergent factors, Risk Taking (F7.7) tended to evince the largest relations with an arrogant interpersonal style, excitement-seeking and substance use.

Across outcomes, similarity between factors ranged from only moderate similarity ($icc = .47$ [Callousness—Risk taking; Suspiciousness—Domineering; Suspiciousness—Risk Taking]) to nearly identical ($icc = .95$ [Aggression—Manipulation]); however, in most cases, the factors were found to be quite similar ($mean\ icc = .75$).

Implications for Assessment

Despite differing theoretical accounts, these analyses suggest that the identified Antagonism factors tend to manifest similar relations with Antagonism domains from an array of existing scales. However, various measures are more or less successful at capturing these

different facets; thus, it may be helpful to develop a new measure of Antagonism that captures all using a comprehensive but efficient set of items, especially since many of these items are from copyrighted scales, making mixing and matching more complicated. For instance, facets measuring callousness or a lack of empathy across measures appear to effectively capture Callousness (F7.1). For Grandiosity (F7.2), the best indicator appears to be scales related to grandiosity, entitlement, and narcissism (CAT-PD Grandiosity, PID-5-FBF Grandiosity, FFNI-SF Entitlement). If measuring Aggression (F7.3), the largest correlates were the CAT-PD Antagonism facets, and more specifically, it was most strongly related to Hostility. Suspiciousness (F7.4) was most notably captured by the DAPP-BQ, as three out of the five best indicators were facets of the DAPP-BQ (i.e., Suspiciousness, Rejection, and Callousness). All measures of manipulation appear to be equally effective at capturing the Manipulation (F7.5) factor. The single best indicator of Domineering (F7.6) was the DAPP-BQ, specifically its facet measuring rejection, followed by CAT-PD Domineering; thus suggesting, that while the CAT-PD Domineering scale and the identified Domineering factor are similarly labeled, they do not perfectly align. As previously stated, Risk Taking (F7.7) was less clearly indicated by common Antagonism measures, but rather markers of thrill seeking. Despite the variation observed across individual factors, generally, Antagonism measures similarly assessed the factors, more broadly (*mean rs* ranged from .55 [EPA-SF, FFMI] to .67 [CAT-PD]); however, the largest relations were found for the CAT-PD (*mean r* = .67), FFNI-SF (*mean r* = .66), and the DAPP-BQ (*mean r* = .66).

Limitations and Conclusions

The present investigation has several notable strengths, including the use of a comprehensive Antagonism item-pool and an item-level analysis. However, the study is limited

in several ways, which may in turn affect its generalizability. First, this sample was composed of a moderately sized undergraduate sample and is limited in terms of demographic diversity, which raises questions regarding the degree to which these results would generalize to less W.E.I.R.D (Henrich, Heine, & Norenzayan, 2010) samples. Additionally, mean levels of Antagonism were generally low, which may reduce effect sizes with criterion variables and generalizability. It will be important to continue to examine and test the structure of Antagonism in other samples with higher levels of Antagonism (e.g., prison/forensic). Additionally, given the comprehensive, Antagonism item pool, we were limited in the number of criterion variables examined. As a result, future work could benefit from examining the identified factors in relation to other theoretically relevant criterion variables (e.g., personality dysfunction). Lastly, the present study relied solely on self-report data, which may inflate relations due to shared method variance. In future studies, it will be helpful to include data from other methodological perspectives including informant reports, behavioral data (e.g., laboratory measures of aggression, cheating), and official records (e.g., arrests; disciplinary infractions).

The present findings build upon previous structural work examining the lower order levels of several general traits (i.e., Agreeableness [Crowe, Lynam, & Miller, 2018], Conscientiousness [Roberts et al., 2005]; Extraversion [Watson et al., 2015]) by demonstrating how Antagonism unfolds at various levels of specificity. Additionally, with the advancement of empirical classification models (i.e., HiTOP; Kotov et al., 2017), the present study marks an important step towards examining the lower-order structure of this important but oft-neglected domain. At the final level of analysis, most factors appear to most strongly related to FFM Agreeableness, suggesting that these traits are most central to Antagonism, whereas Risk Taking (F7.7) was more strongly related to FFM Conscientiousness and Extraversion, suggesting that

despite its inclusion in Antagonism measures, it may be more peripherally related to Antagonism. Moving forward, it may be valuable to develop items that index these constructs so as create a standalone, free to use measure that can be used alone or in combination with other measures to take a HiTOP-like approach to clinical and research assessment.

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APPENDIX

Table A1.

Additional Item Content and Factor Loadings

Scale	Item	F1.1	F2.1	F2.2	F3.1	F3.2	F3.3	F4.1	F4.2	F4.3	F4.4	F5.1	F5.2	F5.3	F5.4	F5.5	F6.1	F6.2	F6.3	F6.4	F6.5	F6.6
CAT	I like to trick people into doing things for me.	.71*	.68	.61	.66	.55	.61	.65	.58	.60	.36	.63	.56	.58	.39	.44	.59	.57	.54	.43	.66*	.15
FFNI	I'm willing to exploit others to further my own goals.	.70*	.70*	.58	.69*	.54	.54	.68	.57	.53	.37	.66	.54	.50	.38	.46	.63	.54	.47	.42	.65*	.18
CAT	I can't be bothered with others' needs.	.67*	.75*	.46	.75*	.45	.45	.75*	.45	.43	.35	.75*	.46	.43	.37	.30	.75*	.48	.42	.40	.44	.15
FFNI	I don't worry about others' needs.	.65*	.77*	.41	.77*	.42	.38	.78*	.43	.37	.33	.78*	.41	.34	.33	.36	.78*	.41	.34	.35	.48	.18
CAT	I am indifferent to the feelings of others.	.64	.72*	.44	.72*	.44	.42	.72*	.39	.41	.41	.72*	.35	.39	.42	.35	.73*	.36	.39	.43	.42	.21
PiCD	I am a manipulative person.	.65*	.60	.59	.58	.53	.59	.56	.54	.58	.38	.55	.46	.53	.36	.56	.50	.43	.50	.39	.72*	.24
FFNI	It is easy to get people to do what I want.	.61	.50	.62*	.48	.58*	.55	.46	.58*	.54	.41	.45	.45	.46	.37	.71*	.41	.39	.45	.36	.66*	.47
PiCD	I have successfully deceived and manipulated persons.	.62	.51	.62*	.48	.55	.61*	.46	.51	.59*	.45	.45	.39	.54	.42	.63*	.40	.35	.51	.43	.71*	.32
CAT	I like having authority over others.	.53	.37	.61*	.36	.66*	.38	.32	.65*	.36	.45	.30	.57	.29	.47	.58*	.29	.52	.30	.44	.40	.55*
CAT	I have a strong need for power.	.56	.44	.59*	.43	.62*	.40	.40	.60*	.38	.46	.38	.55*	.33	.49	.47	.37	.52	.33	.49	.40	.41
FFNI	I will try almost anything to get my "thrills."	.55	.43	.58*	.40	.48	.63*	.38	.50	.63*	.32	.36	.49	.62*	.35	.35	.35	.48	.63*	.37	.38	.25
CAT	I insist that others do things my way.	.54	.44	.54	.44	.61*	.30	.41	.58*	.28	.46	.39	.55*	.23	.49	.43	.40	.52	.24	.48	.32	.43
CAT	I boss people around.	.48	.33	.55	.33	.60*	.33	.29	.56*	.30	.47	.28	.50	.26	.49	.46	.26	.46	.25	.48	.35	.42
CAT	I have always been a rule-breaker.	.53	.43	.55	.39	.40	.70*	.37	.40	.70*	.30	.36	.35	.69*	.30	.40	.35	.33	.70*	.30	.43	.24
CAT	I have a rebellious side that gets me into trouble.	.49	.33	.58	.29	.45	.68*	.26	.39	.67*	.40	.25	.33	.66*	.40	.39	.23	.31	.66*	.40	.40	.26
FFNI	I have at times gone into a rage when not treated rightly.	.41	.25	.51	.23	.50	.39	.20	.36	.37	.56*	.19	.32	.36	.60*	.26	.19	.30	.37	.59*	.20	.27
EPA	I often think that others aren't telling me the whole truth.	.37	.28	.40	.28	.43	.26	.25	.26	.24	.56*	.26	.17	.20	.54*	.35	.24	.13	.19	.53*	.34	.25
PiCD	I am always ready for conflict.	.53	.43	.53	.41	.50	.49	.39	.37	.48	.55*	.39	.24	.43	.51	.53	.39	.19	.45	.48*	.40	.44
FFNI	I feel enraged when people disrespect me.	.34	.20	.43	.19	.48	.22	.16	.35	.20	.51*	.15	.31	.17	.54*	.26	.16	.28	.19	.53*	.13	.33
PiCD	My anger has gotten me into fights.	.41	.31	.45	.29	.40	.43	.27	.26	.43	.49	.27	.23	.43	.51*	.23	.27	.22	.43	.51*	.24	.17
CAT	I should get special privileges.	.56	.57	.45	.56	.44	.41	.56	.55	.40	.15	.54	.63*	.41	.22	.20	.51	.66*	.38	.27	.41	.05
CAT	I believe that I am better than others.	.58	.59	.47	.59	.50	.34	.58	.60	.32	.21	.56	.63*	.29	.26	.35	.56	.63*	.28	.28	.40	.25
FFNI	I believe I am entitled to special accommodations.	.48	.45	.43	.45	.43	.35	.43	.55	.33	.14	.41	.61*	.33	.21	.21	.39	.63*	.30	.25	.36	.10
CAT	I like to start fights.	.48	.43	.45	.40	.34	.58	.39	.24	.58	.40	.39	.23	.60*	.42	.19	.39	.24	.61*	.43	.29	.08
FFNI	I am a bit of a daredevil.	.42	.29	.49	.25	.36	.61*	.24	.35	.62*	.27	.23	.28	.59*	.26	.40	.23	.25	.63*	.24	.29	.35
FFNI	I have at times gone into a rage when not treated rightly.	.41	.25	.51	.23	.50	.39	.20	.36	.37	.56*	.19	.32	.36	.60*	.26	.19	.30	.37	.59*	.20	.27
EPA	I find it easy to manipulate others.	.59	.51	.57	.49	.53	.53	.47	.50	.52	.42	.46	.35	.45	.37	.69*	.43	.29	.43	.35	.67	.42
FFNI	I can talk my way into and out of anything.	.45	.32	.52	.30	.47	.47	.27	.48	.45	.32	.26	.34	.38	.27	.65*	.25	.28	.40	.23	.44	.55*
CAT	I am not a caring person.	.58	.70*	.35	.70*	.32	.39	.70*	.31	.39	.28	.71*	.33	.39	.30	.21	.71*	.35	.38	.34	.41	.02

PiCD	I am not concerned with hurting someone's feelings.	.64	.69	.48	.68	.44	.48	.68	.36	.47	.47	.68	.29	.45	.45	.42	.70*	.27	.46	.45	.43	.28
EPA	I'm not all that concerned with other peoples' needs.	.60	.69	.39	.69	.39	.37	.69*	.35	.36	.35	.70*	.30	.33	.34	.39	.70	.30	.33	.35	.47	.20
CAT	I should get special privileges.	.56	.57	.45	.56	.44	.41	.56	.55	.40	.15	.54	.63	.41	.22	.20	.51	.66*	.38	.27	.41	.05
CAT	I believe that I am always right.	.51	.41	.53	.40	.55	.38	.37	.57	.36	.35	.35	.56	.33	.40	.36	.36	.55*	.35	.40	.25	.39
PiCD	I am experienced in the art of confrontation.	.36	.22	.44	.20	.39	.42	.18	.32	.41	.37	.17	.19	.35	.32	.52	.18	.12	.39	.27	.27	.51*
FFMI	It's easy for me to outsmart my peers.	.41	.32	.43	.31	.44	.31	.29	.43	.29	.32	.28	.31	.22	.28	.55	.27	.25	.23	.26	.40	.46*
PiCD	I am much more competitive than other people.	.38	.26	.43	.26	.45	.29	.23	.40	.27	.37	.22	.32	.23	.37	.42	.23	.28	.25	.34	.22	.45*

An asterisk indicates that the item is among the five highest loading items for that factor. EPA = Elemental Psychopathy Assessment – Short Form; FFMI = Five Factor Machiavellianism Scale; FFNI = Five Factor Narcissism Inventory – Short Form; PiCD = Personality Inventory of ICD-11; CAT = Computerized Adaptive Test of Personality Disorder.

Table A2.

Factor Score Correlations with Antagonism scales

	F1.1	F2.1	F2.2	F3.1	F3.2	F3.3	F4.1	F4.2	F4.3	F4.4	F5.1	F5.2	F5.3	F5.4	F5.5	F6.1	F6.2	F6.3	F6.4	F6.5	F6.6
EPA-SF	.77	.83 ^a	.58 ^b	.83 ^a	.58 ^b	.51 ^b	.83 ^a	.47 ^b	.49 ^b	.63 ^c	.83 ^a	.35 ^b	.44 ^b	.58 ^c	.63 ^c	.82 ^a	.32 ^b	.42 ^b	.59 ^c	.73 ^d	.33 ^b
Callousness	.63	.74 ^a	.41 ^b	.76 ^a	.43 ^b	.35 ^b	.76 ^a	.33 ^b	.33 ^b	.49 ^c	.77 ^a	.24 ^b	.29 ^b	.45 ^c	.47 ^c	.79 ^a	.22 ^b	.30 ^b	.44 ^c	.47 ^c	.32 ^b
Coldness	.37	.51 ^a	.16 ^b	.53 ^a	.18 ^b	.16 ^b	.54 ^a	.16 ^b	.15 ^b	.18 ^b	.55 ^a	.15 ^b	.14 ^b	.17 ^b	.18 ^b	.54 ^a	.16 ^b	.12 ^{bd}	.19 ^b	.34 ^c	.00 ^d
Distrust	.40	.37	.37	.38 ^a	.41 ^b	.24 ^c	.36 ^a	.20 ^b	.21 ^b	.61 ^c	.37 ^a	.09 ^b	.18 ^b	.57 ^c	.38 ^a	.35 ^a	.06 ^b	.15 ^{bd}	.57 ^c	.43 ^a	.20 ^d
Manipulation	.72	.65	.67	.63	.62	.65	.61 ^a	.59 ^a	.64 ^a	.50 ^b	.60 ^a	.45 ^b	.57 ^a	.46 ^b	.75 ^c	.55 ^a	.41 ^b	.53 ^a	.47 ^{ab}	.85 ^c	.39 ^b
Self-Centered	.71	.82 ^a	.47 ^b	.83 ^a	.47 ^b	.45 ^b	.83 ^a	.41 ^b	.44 ^b	.47 ^b	.84 ^a	.34 ^b	.40 ^{bc}	.45 ^c	.48 ^c	.84 ^a	.33 ^b	.40 ^{bc}	.46 ^c	.58 ^d	.25 ^e
FFMI	.78	.79 ^a	.63 ^b	.79 ^a	.64 ^b	.53 ^c	.78 ^a	.58 ^b	.51 ^b	.57 ^b	.78 ^a	.47 ^{bc}	.44 ^b	.54 ^c	.68 ^d	.76 ^a	.43 ^b	.42 ^b	.54 ^c	.73 ^a	.42 ^b
Callousness	.67	.76 ^a	.47 ^b	.77 ^a	.48 ^b	.40 ^c	.77 ^a	.39 ^b	.38 ^b	.53 ^c	.78 ^a	.30 ^b	.34 ^b	.49 ^c	.51 ^c	.80 ^a	.28 ^b	.35 ^b	.48 ^c	.49 ^c	.36 ^b
Cynical	.30	.30	.25	.30 ^a	.27 ^a	.18 ^b	.29 ^a	.11 ^b	.17 ^b	.45 ^c	.30 ^a	.02 ^b	.14 ^c	.41 ^d	.28 ^a	.29 ^a	.00 ^b	.12 ^c	.41 ^d	.33 ^{ad}	.13 ^c
Immodesty	.52	.47	.48	.47 ^a	.51 ^a	.33 ^b	.45 ^a	.58 ^b	.31 ^c	.27 ^c	.44 ^a	.51 ^a	.24 ^b	.26 ^b	.57 ^c	.43 ^a	.46 ^a	.24 ^b	.25 ^b	.44 ^a	.49 ^a
Manipulativeness	.63	.55	.61	.53	.58	.56	.51 ^{ab}	.56 ^a	.55 ^a	.46 ^b	.50 ^a	.44 ^a	.48 ^a	.42 ^a	.68 ^b	.44 ^a	.39 ^a	.44 ^a	.43 ^a	.77 ^b	.35 ^a
Selfishness	.59	.71 ^a	.36 ^b	.72 ^a	.36 ^b	.34 ^b	.73 ^a	.38 ^b	.33 ^{bc}	.27 ^c	.73 ^a	.38 ^b	.32 ^b	.29 ^b	.29 ^b	.72 ^a	.40 ^{bc}	.30 ^b	.32 ^b	.48 ^c	.08 ^d
FFNI-SF	.91	.81 ^a	.87 ^b	.79 ^{ab}	.83 ^a	.77 ^b	.76 ^a	.80 ^{ab}	.75 ^b	.67 ^c	.75 ^a	.71 ^{ab}	.69 ^{ab}	.68 ^b	.73 ^{ab}	.73 ^{ab}	.68 ^a	.68 ^a	.69 ^{ab}	.75 ^b	.51 ^c
Arrogance	.65	.63	.57	.62 ^a	.58 ^a	.46 ^b	.61 ^a	.66 ^a	.44 ^b	.31 ^c	.59 ^a	.66 ^a	.40 ^{bc}	.35 ^b	.45 ^c	.59 ^a	.66 ^a	.41 ^b	.36 ^b	.41 ^b	.40 ^b
Distrust	.44	.40	.42	.40 ^a	.46 ^a	.26 ^b	.38 ^a	.27 ^b	.24 ^b	.63 ^c	.39 ^a	.16 ^b	.19 ^b	.60 ^c	.42 ^a	.37 ^{ac}	.12 ^b	.17 ^{bc}	.59 ^d	.45 ^a	.26 ^c
Entitlement	.58	.54	.52	.54 ^a	.51 ^{ab}	.44 ^b	.52 ^a	.65 ^b	.43 ^c	.17 ^d	.50 ^a	.71 ^b	.42 ^a	.25 ^c	.29 ^c	.47 ^a	.73 ^b	.39 ^{ac}	.30 ^c	.45 ^a	.15 ^d
Exploitativeness	.68	.81 ^a	.43 ^b	.82 ^a	.44 ^b	.40 ^b	.82 ^a	.38 ^b	.39 ^b	.45 ^b	.83 ^a	.32 ^b	.36 ^{bc}	.43 ^c	.42 ^c	.85 ^a	.32 ^b	.37 ^{bc}	.43 ^{cd}	.48 ^d	.25 ^b
Lack of Empathy	.66	.53 ^a	.68 ^b	.51 ^a	.63 ^b	.62 ^b	.48 ^a	.63 ^b	.60 ^b	.45 ^a	.47 ^{ab}	.49 ^{ab}	.52 ^a	.41 ^b	.80 ^c	.43 ^{ab}	.42 ^{ab}	.51 ^{ad}	.39 ^b	.72 ^c	.55 ^d
Manipulativeness	.52	.35 ^a	.62 ^b	.34 ^a	.65 ^b	.42 ^a	.30 ^a	.51 ^b	.39 ^a	.67 ^c	.28 ^a	.49 ^b	.37 ^a	.72 ^c	.34 ^a	.28 ^{ad}	.47 ^b	.38 ^{ab}	.72 ^c	.27 ^d	.37 ^{abd}
Reactive Anger	.54	.39 ^a	.61 ^b	.35 ^a	.47 ^b	.73 ^c	.33 ^a	.47 ^b	.74 ^c	.34 ^a	.32 ^a	.41 ^{ab}	.72 ^c	.34 ^a	.45 ^b	.31 ^a	.39 ^a	.75 ^b	.34 ^a	.39 ^a	.37 ^a
Thrill-seeking	.78	.76 ^a	.66 ^b	.75 ^a	.63 ^b	.62 ^b	.74 ^a	.66 ^b	.60 ^b	.42 ^c	.72 ^a	.60 ^b	.56 ^b	.42 ^c	.61 ^b	.68 ^a	.59 ^{ab}	.51 ^{bc}	.46 ^c	.80 ^d	.26 ^e
PiCD																					
Dissocial	.84	.73 ^a	.82 ^b	.70 ^a	.75 ^a	.79 ^b	.68 ^a	.67 ^a	.77 ^b	.67 ^a	.67 ^a	.54 ^b	.71 ^a	.64 ^a	.78 ^c	.65 ^{ac}	.49 ^b	.71 ^{ad}	.63 ^c	.75 ^d	.55 ^{bc}
PID-5-BFB	.87	.78	.81	.76 ^{ab}	.78 ^a	.72 ^b	.74 ^a	.82 ^b	.70 ^a	.51 ^c	.72 ^{ac}	.77 ^a	.65 ^{bd}	.53 ^c	.69 ^d	.67 ^a	.75 ^b	.61 ^{ac}	.56 ^c	.83 ^d	.39 ^e
Attention Seeking	.44	.21 ^a	.61 ^b	.19 ^a	.62 ^b	.43 ^b	.15 ^a	.67 ^b	.41 ^c	.33 ^c	.12 ^a	.68 ^b	.38 ^c	.41 ^c	.38 ^c	.08 ^a	.66 ^b	.37 ^c	.42 ^c	.33 ^c	.37 ^c
Callousness	.74	.84 ^a	.50 ^b	.84 ^a	.45 ^b	.56 ^b	.84 ^a	.44 ^b	.55 ^c	.39 ^b	.84 ^a	.43 ^{bc}	.55 ^b	.41 ^c	.36 ^c	.84 ^a	.45 ^{bc}	.54 ^b	.44 ^c	.54 ^b	.14 ^d
Deceitfulness	.80	.72	.74	.70 ^{ab}	.72 ^a	.66 ^b	.68 ^a	.71 ^a	.64 ^a	.53 ^b	.66 ^a	.66 ^a	.60 ^{ab}	.56 ^b	.60 ^{ab}	.60 ^{ab}	.65 ^a	.55 ^b	.60 ^{ab}	.81 ^c	.26 ^d
Grandiosity	.71	.70 ^a	.59 ^b	.70 ^a	.59 ^b	.50 ^c	.69 ^a	.71 ^a	.48 ^b	.27 ^c	.66 ^a	.76 ^b	.47 ^c	.35 ^d	.37 ^{cd}	.65 ^a	.78 ^b	.45 ^{cd}	.39 ^c	.50 ^d	.23 ^e
Hostility	.74	.62 ^a	.74 ^b	.60 ^a	.69 ^b	.67 ^{ab}	.57 ^a	.72 ^b	.66 ^b	.47 ^c	.55 ^a	.61 ^a	.59 ^a	.45 ^b	.76 ^c	.51 ^{ab}	.56 ^a	.56 ^a	.46 ^b	.79 ^c	.47 ^{ab}
Manipulativeness	.53	.41 ^a	.58 ^b	.40 ^a	.58 ^b	.45 ^a	.37 ^a	.38 ^a	.43 ^a	.72 ^b	.36 ^{ab}	.36 ^a	.43 ^a	.77 ^c	.26 ^b	.36 ^{ac}	.35 ^{ac}	.43 ^a	.78 ^b	.30 ^{cd}	.22 ^d

CAT-PD	.92	.85	.83	.82 ^a	.76 ^b	.84 ^a	.80 ^a	.72 ^b	.82 ^a	.63 ^c	.79 ^a	.68 ^b	.80 ^a	.66 ^b	.57 ^c	.76 ^{ad}	.68 ^b	.79 ^a	.69 ^{bd}	.72 ^d	.31 ^c
Callousness	.74	.86 ^a	.48 ^b	.87 ^a	.46 ^b	.49 ^b	.87 ^a	.43 ^b	.49 ^b	.43 ^b	.87 ^a	.42 ^{bc}	.48 ^b	.44 ^{bc}	.35 ^c	.88 ^a	.44 ^b	.48 ^b	.46 ^b	.51 ^b	.16 ^c
Domineering	.70	.55 ^a	.74 ^b	.54 ^a	.80 ^b	.48 ^a	.50 ^a	.78 ^b	.45 ^a	.60 ^c	.48 ^a	.71 ^b	.39 ^a	.63 ^c	.63 ^c	.47 ^{ac}	.67 ^b	.39 ^a	.62 ^b	.50 ^c	.59 ^{bc}
Grandiosity	.74	.73 ^a	.63 ^b	.73 ^a	.63 ^b	.53 ^c	.71 ^a	.73 ^a	.52 ^b	.31 ^c	.69 ^a	.79 ^b	.51 ^c	.39 ^d	.37 ^d	.68 ^a	.81 ^b	.49 ^c	.43 ^c	.50 ^c	.24 ^d
Hostile Aggress	.75	.69	.68	.66 ^a	.57 ^b	.77 ^c	.65 ^a	.46 ^b	.77 ^c	.59 ^a	.65 ^a	.44 ^b	.78 ^c	.62 ^a	.37 ^b	.63 ^{ad}	.46 ^b	.77 ^c	.65 ^a	.57 ^d	.13 ^e
Manipulativeness	.79	.77 ^a	.68 ^b	.76 ^a	.60 ^b	.73 ^a	.74 ^a	.59 ^b	.72 ^a	.47 ^c	.73 ^a	.57 ^b	.71 ^a	.50 ^b	.47 ^c	.68 ^a	.58 ^{bc}	.65 ^{ab}	.56 ^c	.80 ^d	.07 ^e
Norm Violation	.56	.45 ^a	.58 ^b	.40 ^a	.41 ^a	.79 ^b	.39 ^a	.39 ^a	.80 ^b	.34 ^a	.38 ^a	.35 ^a	.80 ^b	.34 ^a	.38 ^a	.35 ^a	.35 ^a	.80 ^b	.37 ^a	.50 ^c	.15 ^d
Rudeness	.70	.57 ^a	.73 ^b	.53 ^a	.63 ^b	.75 ^c	.51 ^a	.52 ^a	.75 ^b	.63 ^c	.50 ^a	.46 ^a	.73 ^b	.63 ^c	.50 ^a	.48 ^a	.44 ^a	.72 ^b	.64 ^c	.56 ^d	.32 ^e
DAPP-BQ	.86	.65 ^a	.93 ^b	.62 ^a	.92 ^b	.75 ^c	.58 ^a	.85 ^b	.72 ^c	.76 ^c	.55 ^a	.77 ^{bd}	.67 ^c	.80 ^d	.72 ^{bc}	.53 ^a	.72 ^b	.67 ^b	.79 ^c	.64 ^{bd}	.61 ^d
Callousness	.89	.87 ^a	.77 ^b	.86 ^a	.75 ^b	.67 ^c	.84 ^a	.71 ^b	.65 ^{bc}	.63 ^c	.83 ^a	.66 ^b	.61 ^b	.65 ^b	.61 ^b	.81 ^a	.65 ^{bc}	.60 ^b	.67 ^{bc}	.72 ^c	.37 ^d
Narcissism	.49	.26 ^a	.66 ^b	.24 ^a	.71 ^b	.39 ^c	.19 ^a	.72 ^b	.36 ^c	.46 ^c	.16 ^a	.72 ^b	.32 ^c	.53 ^d	.44 ^e	.14 ^a	.68 ^b	.31 ^c	.54 ^d	.34 ^{ce}	.45 ^{de}
Rejection	.73	.52 ^a	.83 ^b	.51 ^a	.88 ^b	.54 ^a	.46 ^a	.79 ^b	.51 ^a	.74 ^b	.44 ^a	.68 ^b	.43 ^a	.75 ^c	.75 ^c	.45 ^a	.61 ^b	.46 ^a	.71 ^c	.46 ^a	.78 ^d
Stimulus Seeking	.55	.38 ^a	.64 ^b	.33 ^a	.49 ^b	.77 ^c	.31 ^a	.50 ^b	.77 ^c	.34 ^a	.29 ^a	.46 ^b	.76 ^c	.36 ^{ad}	.45 ^{bd}	.28 ^a	.44 ^b	.78 ^c	.35 ^{ad}	.40 ^{bd}	.36 ^{ab}
Suspiciousness	.65	.53 ^a	.67 ^b	.52 ^a	.70 ^b	.48 ^a	.49 ^a	.51 ^a	.45 ^a	.79 ^b	.48 ^{ac}	.41 ^a	.41 ^a	.79 ^b	.52 ^c	.46 ^a	.37 ^b	.39 ^{ab}	.80 ^c	.57 ^d	.35 ^{ab}

Note. At each factor level, correlations in the same row with different superscripts are significantly different from one another at $p < .01$; EPA-SF = Elemental Psychopathy Assessment — Short Form; FFMI = Five Factor Machiavellianism Inventory; FFNI-SF = Five Factor Narcissism Inventory — Short Form; PiCD = Personality Inventory of ICD-11; PID-5-FBF = Personality Inventory for DSM-5 — Faceted Brief Form; CAT-PD = Computerized Adaptive Test of Personality Disorder; DAPP-BQ = Dimensional Assessment of Personality Pathology – Basic Questionnaire.

Table A3.

Factor Score Correlations with Five Factor Model

	F1	F2.1	F2.2	F3.1	F3.2	F3.3	F4.1	F4.2	F4.3	F4.4	F5.1	F5.2	F5.3	F5.4	F5.5	F6.1	F6.2	F6.3	F6.4	F6.5	F6.6
Neuroticism	.14	.04 ^a	.22 ^b	.03 ^a	.23 ^b	.13 ^c	.01 ^a	.11 ^{ab}	.12 ^b	.34 ^c	.01 ^a	.16 ^b	.15 ^b	.40 ^c	-.09 ^a	-.02 ^a	.18 ^b	.11 ^b	.45 ^c	.11 ^b	-.16 ^a
Anxiety	-.15	-.23 ^a	-.04 ^b	-.23 ^a	.02 ^b	-.15 ^a	-.24 ^a	-.06 ^b	-.16 ^a	.11 ^c	-.24 ^a	-.03 ^b	-.15 ^a	.14 ^c	-.16 ^a	-.26 ^a	-.03 ^b	-.17 ^{ac}	.15 ^d	-.13 ^{bc}	-.11 ^{bc}
Anger	.33	.20 ^a	.41 ^b	.19 ^a	.40 ^b	.33 ^b	.16 ^a	.22 ^{ab}	.31 ^b	.54 ^c	.16 ^a	.21 ^a	.32 ^b	.58 ^c	.12 ^a	.16 ^a	.21 ^a	.32 ^b	.59 ^c	.14 ^a	.12 ^a
Depression	.18	.10 ^a	.23 ^b	.09 ^a	.22 ^b	.19 ^b	.07 ^a	.10 ^{ab}	.18 ^b	.35 ^c	.08 ^a	.10 ^{ab}	.20 ^b	.38 ^c	.02 ^a	.04 ^{ac}	.11 ^{ab}	.16 ^b	.41 ^d	.20 ^b	-.10 ^c
Self-con.	.03	.03	.03	.03 ^{ab}	.07 ^a	-.03 ^b	.03 ^{ab}	.02 ^a	-.04 ^a	.13 ^b	.03 ^a	.08 ^{ac}	-.01 ^a	.18 ^c	-.16 ^b	.00 ^{ab}	.11 ^{ac}	-.06 ^b	.22 ^c	.07 ^a	-.25 ^d
Impulsiveness	.14	.08 ^a	.18 ^b	.07 ^a	.16 ^{ab}	.17 ^b	.06 ^a	.16 ^{ab}	.17 ^b	.13 ^{ab}	.05 ^{ac}	.18 ^b	.18 ^b	.16 ^{ab}	.02 ^c	.02 ^a	.19 ^b	.15 ^b	.19 ^b	.14 ^b	-.06 ^a
Vulnerability	-.02	-.05	.01	-.05	.02	-.02	-.05	-.01	-.02	.04	-.06 ^a	.07 ^b	.01 ^{ac}	.10 ^{bc}	-.22 ^d	-.08 ^a	.10 ^b	-.02 ^a	.14 ^b	-.04 ^a	-.24 ^c
Extraversion	-.06	-.19 ^a	.08 ^b	-.20 ^a	.06 ^b	.06 ^b	-.22 ^a	.14 ^b	.06 ^b	-.10 ^c	-.23 ^a	.10 ^{bcd}	.03 ^b	-.11 ^c	.18 ^d	-.21 ^a	.06 ^b	.08 ^b	-.16 ^a	-.15 ^a	.38 ^c
Friendliness	-.12	-.19 ^a	-.03 ^b	-.20 ^a	-.05 ^b	-.02 ^b	-.20 ^a	.03 ^b	-.01 ^b	-.18 ^a	-.21 ^a	.01 ^{bc}	-.04 ^b	-.20 ^a	.09 ^c	-.19 ^a	-.02 ^b	.00 ^b	-.24 ^a	-.14 ^a	.23 ^c
Gregariousness	-.02	-.10 ^a	.08 ^b	-.11 ^a	.03 ^b	.13 ^c	-.12 ^a	.11 ^b	.14 ^b	-.12 ^a	-.13 ^a	.10 ^b	.13 ^b	-.11 ^a	.08 ^b	-.12 ^a	.09 ^b	.16 ^b	-.13 ^a	-.09 ^a	.19 ^b
Assertiveness	.07	-.04 ^a	.17 ^b	-.04 ^a	.21 ^b	.04 ^a	-.06 ^a	.23 ^b	.03 ^{ac}	.09 ^c	-.07 ^a	.17 ^c	-.01 ^{ab}	.08 ^b	.28 ^d	-.05 ^{ac}	.12 ^b	.03 ^{abc}	.04 ^{abc}	-.03 ^c	.43 ^d
Activity Level	-.08	-.15 ^a	.00 ^b	-.15 ^a	.03 ^b	-.07 ^a	-.16 ^a	.02 ^b	-.08 ^a	.04 ^b	-.17 ^a	-.02 ^{bc}	-.10 ^{ab}	.02 ^c	.07 ^c	-.15 ^a	-.05 ^a	-.08 ^{ab}	-.01 ^b	-.12 ^a	.20 ^c
Excite-Seeking	.07	-.08 ^a	.21 ^b	-.10 ^a	.14 ^b	.26 ^c	-.12 ^a	.18 ^b	.26 ^b	.02 ^c	-.13 ^a	.15 ^b	.24 ^b	.02 ^c	.19 ^b	-.13 ^a	.12 ^b	.28 ^c	-.01 ^d	.00 ^d	.28 ^c
Cheerfulness	-.19	-.22 ^a	-.11 ^b	-.23 ^a	-.12 ^b	-.09 ^b	-.23 ^a	-.01 ^b	-.09 ^b	-.27 ^a	-.24 ^a	-.02 ^{bc}	-.11 ^b	-.28 ^a	.02 ^c	-.21 ^a	-.04 ^b	-.07 ^b	-.32 ^c	-.22 ^{ac}	.19 ^d
Openness	-.08	-.18 ^a	.05 ^b	-.20 ^a	.02 ^b	.06 ^b	-.21 ^a	.04 ^b	.06 ^b	-.04 ^b	-.22 ^a	.03 ^b	.06 ^b	-.03 ^b	.03 ^b	-.23 ^a	.01 ^b	.06 ^b	-.04 ^b	-.02 ^b	.05 ^b
Imagination	.02	-.06 ^a	.11 ^b	-.06 ^a	.12 ^b	.04 ^b	-.08 ^a	.14 ^b	.03 ^c	.04 ^{bc}	-.09 ^a	.13 ^b	.01 ^{ac}	.04 ^{bc}	.11 ^{bc}	-.10 ^a	.11 ^b	.01 ^{ab}	.03 ^b	.04 ^b	.14 ^b
Aesthetics	-.14	-.21 ^a	-.05 ^b	-.21 ^a	-.06 ^b	-.04 ^b	-.22 ^a	-.04 ^b	-.04 ^b	-.09 ^b	-.22 ^a	-.04 ^b	-.04 ^b	-.09 ^b	-.04 ^b	-.23 ^a	-.05 ^b	-.05 ^b	-.09 ^b	-.07 ^b	-.01 ^b
Emotionality	-.11	-.27 ^a	.07 ^b	-.28 ^a	.07 ^b	.01 ^b	-.30 ^a	.03 ^b	.01 ^b	.09 ^b	-.31 ^a	.05 ^b	.02 ^{bc}	.13 ^b	-.09 ^c	-.33 ^a	.05 ^{bc}	.01 ^b	.13 ^c	-.12 ^d	-.01 ^{bd}
Adventurous.	-.05	-.07	-.02	-.09 ^a	-.09 ^a	.11 ^b	-.08 ^a	-.03 ^a	.12 ^b	-.16 ^a	-.09 ^{ac}	-.04 ^a	.13 ^b	-.17 ^c	.02 ^{ab}	-.08 ^a	-.04 ^a	.15 ^b	-.19 ^c	-.06 ^a	.06 ^{ab}
Intellect	.00	-.05 ^a	.06 ^b	-.06 ^a	.04 ^b	.08 ^b	-.07 ^a	.06 ^{bc}	.08 ^c	-.03 ^{ab}	-.07 ^a	.03 ^{abc}	.07 ^{bc}	-.04 ^{ab}	.12 ^c	-.08 ^a	.01 ^{ab}	.07 ^b	-.05 ^a	.06 ^b	.11 ^b
Liberalism	.00	.01	.00	.01	-.01	.02	.01	-.02	.02	.02	.01	-.02	.02	.02	-.02	.00 ^{ab}	-.01 ^{ab}	.01 ^{ab}	.03 ^{ab}	.06 ^a	-.09 ^b
Agreeableness	-.77	-.80 ^a	-.61 ^b	-.80 ^a	-.59 ^b	-.57 ^b	-.79 ^a	-.54 ^b	-.55 ^b	-.53 ^b	-.78 ^a	-.48 ^b	-.52 ^b	-.53 ^b	-.53 ^b	-.77 ^a	-.47 ^b	-.50 ^b	-.54 ^b	-.65 ^c	-.27 ^d
Trust	-.34	-.34	-.27	-.35 ^a	-.29 ^a	-.20 ^b	-.34 ^a	-.12 ^b	-.19 ^b	-.47 ^c	-.35 ^a	-.06 ^b	-.18 ^c	-.45 ^a	-.22 ^c	-.33 ^a	-.05 ^b	-.15 ^b	-.46 ^c	-.34 ^a	-.05 ^b
Morality	-.58	-.58 ^a	-.48 ^b	-.57 ^a	-.42 ^b	-.52 ^a	-.57 ^a	-.40 ^b	-.51 ^a	-.35 ^b	-.56 ^a	-.35 ^b	-.49 ^{ac}	-.35 ^b	-.41 ^{bc}	-.52 ^a	-.35 ^b	-.45 ^{ab}	-.38 ^b	-.64 ^c	-.08 ^d
Altruism	-.59	-.72 ^a	-.36 ^b	-.72 ^a	-.33 ^b	-.39 ^b	-.73 ^a	-.32 ^b	-.38 ^b	-.30 ^b	-.73 ^a	-.31 ^b	-.37 ^b	-.30 ^b	-.29 ^b	-.74 ^a	-.33 ^{bc}	-.37 ^{bc}	-.32 ^b	-.45 ^c	-.09 ^d
Cooperation	-.59	-.54	-.54	-.52 ^{ab}	-.47 ^a	-.56 ^b	-.51 ^a	-.39 ^b	-.55 ^a	-.49 ^a	-.51 ^a	-.33 ^b	-.54 ^a	-.49 ^a	-.40 ^b	-.48 ^a	-.32 ^b	-.52 ^a	-.50 ^a	-.53 ^a	-.17 ^c
Modesty	-.41	-.38	-.37	-.38 ^a	-.41 ^a	-.24 ^b	-.37 ^a	-.52 ^b	-.23 ^c	-.12 ^d	-.35 ^a	-.52 ^b	-.19 ^c	-.15 ^{bc}	-.38 ^a	-.36 ^a	-.50 ^b	-.20 ^{cd}	-.13 ^c	-.24 ^d	-.40 ^{ab}
Sympathy	-.37	-.43 ^a	-.23 ^b	-.44 ^a	-.25 ^b	-.20 ^b	-.44 ^a	-.22 ^b	-.19 ^b	-.24 ^b	-.44 ^a	-.19 ^b	-.17 ^b	-.23 ^b	-.25 ^b	-.46 ^a	-.18 ^b	-.18 ^b	-.22 ^b	-.24 ^b	-.18 ^b
Conscientious.	-.44	-.38	-.42	-.36 ^a	-.30 ^a	-.55 ^b	-.35 ^a	-.28 ^a	-.56 ^b	-.27 ^a	-.34 ^a	-.30 ^a	-.58 ^b	-.31 ^a	-.14 ^c	-.30 ^a	-.33 ^a	-.55 ^b	-.36 ^{ac}	-.44 ^c	.11 ^d
Self-efficacy	-.18	-.16	-.16	-.14 ^a	-.10 ^a	-.26 ^b	-.14 ^a	-.07 ^a	-.26 ^b	-.12 ^a	-.14 ^a	-.12 ^a	-.30 ^b	-.16 ^a	.07 ^c	-.11 ^a	-.16 ^{ab}	-.26 ^b	-.21 ^b	-.21 ^b	.24 ^c
Orderliness	-.25	-.21	-.26	-.19 ^a	-.19 ^a	-.33 ^b	-.18 ^a	-.20 ^a	-.33 ^b	-.13 ^a	-.18 ^a	-.20 ^a	-.34 ^b	-.15 ^a	-.13 ^a	-.14 ^a	-.21 ^{ab}	-.31 ^b	-.18 ^a	-.29 ^b	.03 ^c
Dutifulness	-.43	-.45 ^a	-.34 ^b	-.44 ^a	-.29 ^b	-.39 ^a	-.43 ^a	-.27 ^b	-.39 ^a	-.28 ^b	-.43 ^a	-.27 ^{bd}	-.39 ^{ac}	-.30 ^{bc}	-.18 ^d	-.40 ^a	-.29 ^b	-.36 ^{ab}	-.34 ^{ab}	-.42 ^a	.05 ^c

Achieve Strive	-.30	-.34 ^a	-.21 ^b	-.32 ^a	-.12 ^b	-.36 ^a	-.33 ^a	-.13 ^b	-.37 ^a	-.10 ^b	-.33 ^a	-.16 ^b	-.39 ^a	-.11 ^{bc}	-.05 ^c	-.29 ^{abd}	-.19 ^{ac}	-.36 ^{be}	-.17 ^{dc}	-.35 ^e	.20 ^f
Self-discipline	-.27	-.24	-.26	-.22 ^a	-.19 ^a	-.33 ^b	-.22 ^a	-.14 ^a	-.33 ^b	-.22 ^a	-.22 ^a	-.17 ^a	-.35 ^b	-.24 ^a	-.05 ^c	-.18 ^a	-.19 ^{ac}	-.32 ^b	-.29 ^{bc}	-.29 ^{bc}	.14 ^d
Cautiousness	-.37	-.26 ^a	-.43 ^b	-.22 ^a	-.31 ^a	-.55 ^b	-.21 ^a	-.29 ^a	-.55 ^b	-.26 ^a	-.20 ^a	-.29 ^a	-.56 ^b	-.28 ^a	-.20 ^a	-.18 ^a	-.29 ^b	-.57 ^c	-.30 ^b	-.27 ^{ab}	-.10 ^a

Note. All correlations greater than or equal to $|r| = .12$ are significant at $p < .01$. At each factor level, correlations in the same row with different superscripts are significantly different from one another at $p < .01$.

Table A4.

Factor Score Correlations with External Criterion Measures

	F1.1	F2.1	F2.2	F3.1	F3.2	F3.3	F4.1	F4.2	F4.3	F4.4	F5.1	F5.2	F5.3	F5.4	F5.5	F6.1	F6.2	F6.3	F6.4	F6.5	F6.6
<i>CAB</i>																					
Substance Use	.27	.17 ^a	.33 ^b	.14 ^a	.24 ^b	.43 ^c	.13 ^a	.22 ^a	.44 ^b	.20 ^a	.12 ^a	.18 ^{ac}	.43 ^b	.19 ^{ac}	.26 ^c	.10 ^a	.17 ^a	.43 ^b	.19 ^{ac}	.28 ^c	.14 ^a
Antisocial Behavior	.31	.24 ^a	.34 ^b	.22 ^a	.28 ^a	.37 ^c	.21 ^a	.22 ^a	.37 ^b	.30 ^{ab}	.21 ^{ac}	.15 ^a	.34 ^b	.28 ^{cb}	.32 ^b	.19 ^{ac}	.12 ^a	.34 ^{bc}	.28 ^{cd}	.35 ^{bc}	.18 ^{ad}
<i>Aggression</i>																					
Proactive Aggression	.42	.13 ^a	.44 ^b	.30 ^a	.37 ^a	.49 ^c	.29 ^{ac}	.29 ^a	.48 ^b	.39 ^{bc}	.29 ^{ac}	.22 ^a	.47 ^b	.38 ^{bc}	.34 ^c	.27 ^{ad}	.20 ^a	.47 ^{bc}	.38 ^c	.35 ^{cd}	.22 ^a
Reactive Aggression	.41	.26 ^a	.50 ^b	.24 ^a	.47 ^b	.42 ^b	.21 ^a	.32 ^b	.41 ^b	.55 ^c	.21 ^a	.26 ^{ac}	.39 ^b	.56 ^d	.32 ^{bc}	.20 ^a	.24 ^a	.40 ^b	.55 ^c	.25 ^a	.30 ^{ab}
<i>Promis</i>																					
Anxiety	.08	-.01 ^a	.15 ^b	-.01 ^a	.18 ^b	.05 ^a	-.03 ^a	.09 ^{bc}	.04 ^{ac}	.26 ^d	-.03 ^a	.10 ^b	.05 ^{ab}	.30 ^c	-.02 ^a	-.06 ^a	.10 ^b	.02 ^{ab}	.32 ^c	.08 ^b	-.05 ^{ab}
Depression	.17	.09 ^a	.22 ^b	.08 ^a	.23 ^b	.15 ^{ab}	.07 ^a	.10 ^a	.14 ^a	.36 ^b	.07 ^{ad}	.10 ^a	.15 ^{ab}	.38 ^c	.02 ^d	.04 ^{ad}	.11 ^{ab}	.13 ^{ab}	.41 ^c	.16 ^b	-.05 ^d
<i>Interpersonal Adjectives</i>																					
Love	-.70	-.75 ^a	-.53 ^b	-.75 ^a	-.51 ^b	-.51 ^b	-.75 ^a	-.42 ^b	-.49 ^{bd}	-.53 ^{cd}	-.75 ^a	-.34 ^b	-.46 ^c	-.51 ^c	-.49 ^c	-.75 ^a	-.33 ^b	-.46 ^c	-.52 ^{cd}	-.58 ^d	-.27 ^b
Dominance	.12	.00 ^a	.23 ^b	-.02 ^a	.20 ^b	.21 ^b	-.04 ^a	.27 ^b	.21 ^b	.02 ^a	-.05 ^a	.19 ^b	.16 ^b	.00 ^a	.37 ^c	-.04 ^a	.14 ^b	.20 ^b	-.05 ^a	.07 ^c	.46 ^d
Assured - Dominant	.29	.20 ^a	.35 ^b	.19 ^a	.36 ^b	.24 ^a	.17 ^a	.36 ^b	.22 ^a	.25 ^a	.16 ^a	.26 ^a	.16 ^a	.22 ^a	.47 ^b	.19 ^a	.20 ^a	.21 ^a	.16 ^a	.15 ^a	.56 ^b
Arrogant - Calculating	.62	.54	.60	.52 ^a	.54 ^a	.58 ^a	.50 ^a	.56 ^a	.58 ^a	.37 ^b	.48 ^a	.47 ^a	.53 ^{ac}	.35 ^b	.61 ^c	.47 ^a	.44 ^{ab}	.53 ^{ac}	.35 ^b	.57 ^c	.43 ^{ab}
Cold-Hearted	.72	.77 ^a	.54 ^b	.76 ^a	.51 ^b	.54 ^b	.76 ^a	.44 ^b	.53 ^c	.52 ^{bc}	.76 ^a	.36 ^b	.50 ^c	.49 ^c	.51 ^c	.77 ^a	.34 ^b	.51 ^c	.49 ^c	.56 ^c	.31 ^b
Aloof-Introverted	.40	.48 ^a	.25 ^b	.49 ^a	.27 ^b	.21 ^b	.49 ^a	.15 ^b	.20 ^b	.39 ^c	.50 ^a	.14 ^b	.20 ^b	.40 ^c	.13 ^b	.49 ^a	.16 ^b	.17 ^b	.43 ^{ac}	.35 ^c	-.06 ^d
Unassured-Submissive	-.05	.02 ^a	-.12 ^b	.03 ^a	-.09 ^b	-.14 ^b	.04 ^a	-.12 ^b	-.14 ^b	.00 ^a	.04 ^a	-.05 ^{ab}	-.11 ^b	.03 ^a	-.25 ^c	.02 ^a	-.01 ^a	-.15 ^b	.08 ^a	-.01 ^a	-.34 ^c
Unassuming-Ingenuous	-.28	-.20 ^a	-.32 ^b	-.19 ^a	-.29 ^b	-.31 ^b	-.17 ^a	-.30 ^b	-.31 ^b	-.19 ^a	-.16 ^a	-.22 ^a	-.27 ^b	-.16 ^a	-.39 ^c	-.16 ^a	-.18 ^{ab}	-.28 ^{bc}	-.14 ^a	-.26 ^{bd}	-.34 ^{cd}
Warm-Agreeable	-.57	-.66 ^a	-.38 ^b	-.66 ^a	-.38 ^b	-.37 ^b	-.66 ^a	-.30 ^b	-.36 ^{bc}	-.43 ^c	-.67 ^a	-.23 ^b	-.33 ^{bc}	-.40 ^c	-.39 ^c	-.69 ^a	-.22 ^b	-.33 ^{cd}	-.40 ^{ce}	-.43 ^{de}	-.23 ^{bd}
Gregarious-Extraverted	-.29	-.40 ^a	-.12 ^b	-.42 ^a	-.14 ^b	-.11 ^b	-.43 ^a	-.03 ^b	-.11 ^b	-.30 ^c	-.44 ^a	-.03 ^b	-.12 ^b	-.30 ^c	-.04 ^b	-.43 ^a	-.05 ^b	-.09 ^b	-.33 ^{ac}	-.26 ^c	.14 ^d

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