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Development of a Validity Scale for the ICD-11 Personality Disorder Measure (PSI-11)

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science,  
at Virginia Commonwealth University.

by

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Bachelor of Arts in Psychology, Grand Valley State University, 2016

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## **Abstract**

### DEVELOPMENT OF A VALIDITY SCALE FOR THE ICD-11 PERSONALITY DISORDER MEASURE (PSI-11)

By Rae Lutz, M.S.

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science at Virginia Commonwealth University.

Virginia Commonwealth University, 2024.

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Invalid responding is a significant issue in the utilization of self-report information, especially in the context of assessing personality pathology, given that it often heavily relies upon self-reporting. The credibility of self-report information can be threatened by non-content-based invalid responding and content-based invalid responding; there are a few ways in which this kind of responding is assessed, such as stand-alone validity measures and embedded validity scales. The International Classification of Diseases (ICD) is one of two major diagnostic systems which provide guidance on diagnosing personality disorder, and the most recent version (ICD-11) provides the first fully dimensional model for personality disorders in an official classification system. There have been a number of measures constructed which aim to assess dimensional personality pathology; however, no existing measure has addressed the combination of PD severity and trait qualifiers that was based upon ICD-11 guidelines. To address this gap, Clark et al. (2021) developed the ICD-11 Personality Disorder Measure (PSI-11) based upon the WHO's "Clinical Descriptions and Diagnostic Requirements" (CDDR). However, Clark et al. (2021) did not include any embedded measure of response validity in the PSI-11. Therefore, the aim of the

proposed study was to construct an inconsistency scale for the newly developed PSI-11. The study utilized previously collected data of 341 participants recruited through MTurk. In order to construct the validity scale, item-to-item correlations were used to identify item-pairs, and then discriminant function analyses were employed. There were 68 item pairs identified for use in our scale. Analyses revealed an optimal cutpoint of 65, with a sensitivity of .997 and specificity of .997 when amounts of real and random data are equal. The Balanced Inventory of Desirable Responding Short Form (BIDR-16) and an inconsistency scale for the Personality Inventory for DSM-5 (PID-5) were utilized as external validators for the developed inconsistency scale. Overall, the newly developed inconsistency scale performed well and holds promise for future research and clinical application in the detection of inconsistent responding on the PSI-11.

## Introduction

The majority of personality disorder (PD) research consists of self-report information, most often collected through structured interviews and standardized self-report questionnaires. While there is an extensive history of assessing response validation in individual assessment, there remains a need for investigating valid responding in research conditions (Credé, 2010; Burchett et al., 2023). Despite knowing about the importance of validating responses, there are relatively few scales available for checking response validity for personality disorder measures and available personality disorder research rarely includes such a validation check.

Even with a relatively robust history of response validation testing in individual assessment (Credé, 2010), there has been limited recognition of the need to examine validity in research (i.e., anonymous) contexts. The utilization of self-report measures, including in personality and personality disorder (PD) research, often does not include the incorporation of validation check measures to gauge whether participants are comprehending, paying attention to, and/or truthfully answering the self-report questions (Burchett et al., 2023; Sharpe et al., 2022). Sharpe et al. (2022) argued that the lack of valid response testing in PD science is potentially reinforced by a number of unfounded assumptions. The first assumption is that invalid responding is not common in research samples. A second assumption is that invalid responding poses no significant restrictions on either analyses or the interpretation of results. The third assumption is that, despite consideration for its influence or regularity, the detection of invalid responding generates “more problems than it solves” (Sharpe et al., 2022).

This paper will first provide an overview of types of invalid responding in self-report measures, followed by some examples of well-known scales developed to assess invalid responding. To begin, I will cover how invalid responding occurs in self-report assessment, a few

ways it has been addressed within PD research, and alternative assessment methods beyond self-report. Further, I will cover the specifics of the ICD-11's new PD model, in addition to outlining measures aimed at assessing it. Ultimately, the aim of this proposal is to develop an inconsistency scale for Clark et al.'s (2021) measure developed to assess personality pathology according to the ICD-11's new PD model.

### **Invalid Responding in Self-Report**

There are two potential ways in which the credibility of self-reporting is compromised: non-content-based invalid responding and content-based invalid responding (Burchett et al., 2023; Sharpe et al., 2022). Non-content-based invalid responding arises when participants give responses to items which are not based on the content of the items (Burchett et al., 2023; Sharpe et al., 2022). Burchett et al. (2023, p. 94) provide examples of non-content-based invalid responding, which include “a test-taker...skip[ing] a large number of items (i.e., non-responding), indiscriminately mark[ing] a large number of items in a variable pattern (i.e., random responding), or [endorsing] items in a fixed pattern via acquiescent responding (e.g., many affirmative responses) or counter-acquiescent responding (e.g., many negative responses)”. Reasons why non-content-based invalid responding may arise include issues with reading, processing, or comprehension, and such difficulties are potentially worsened by disruptive testing environments or legitimate psychological symptoms; additionally, non-content-based invalid responding may occur due to individuals engaging in “an intentionally uncooperative or disengaged test-taking approach” (Burchett et al., 2023, p. 94; Ben-Porath, 2013). In contrast, content-based invalid responding happens when a participant's responses are skewed after the individual reads and processes the content of an item. Burchett et al. (2023, p. 94) indicate that content-based invalid responding can include “overreporting (e.g., exaggeration or fabrication of

psychopathology, cognitive problems, or somatic symptoms) or underreporting (e.g., denial of symptoms or exaggeration of virtues or other desirable qualities)”.

Compromised reporting, which threatens the validity of self-report, can be either intentional or unintentional, and may occur for a number of reasons. Ben-Porath (2013) notes that non-content-based invalid responding may arise due to difficulties in comprehension, reading, or processing, which are potentially worsened by factors such as distractions in the testing environment or a participant’s legitimate psychiatric symptoms, in addition to a potentially intentional uncooperative or disengaged approach to respond on behalf of the participant (Burchett et al., 2023). For content-based invalid responding, participants could be motivated to exaggerate their symptoms to appear more “pathological” than they actually are, while others may genuinely lack insight into or knowledge of their own personal aspects which could potentially lead to accidental minimization or exaggeration of the symptoms and traits they are reporting (Morey, 2014).

One example of a personality scale that has paid much attention to these forms of invalid responding is the Minnesota Multiphasic Personality Inventory (MMPI) throughout its various versions. The Minnesota Multiphasic Personality Inventory-3 (MMPI-3) is a 335-item instrument which measures a variety of different psychopathology and personality constructs. The measure has a total of 52 scales, 10 of which aim to assess overreporting and underreporting, as well as non-content-based invalid responding (Ben-Porath & Tellegen, 2020). These validity scales are related to versions of the validity scales embedded in the MMPI-2-RF, with two MMPI-3 Validity Scales (Symptom Validity (FBS) and Response Bias Scale (RBS)) being identical to those in the previous version of the measure, in addition to the new Combined

Response Inconsistency (CRIN) scale which aims to screen for “combined random and fixed responding” (Burchett et al., 2023).

Ben-Porath and Tellegen (2020) note that research conducted on the MMPI-2-RF can be applied to the similar MMPI-3 scales. A study conducted by Handel et al. (2010) found that the MMPI-2-RF version of the Variable Response Inconsistency (VRIN) scale is sensitive to moderate levels of random responding, while the MMPI-2-RF version of the True Response Inconsistency (TRIN) scale is sensitive to fixed indiscriminate responding. Meta analyses conducted on the MMPI-2-RF (Ingram & Ternes, 2016; Sharf et al., 2017), in addition to subsequent studies on the MMPI-3 (e.g., Tylicki et al., 2020; Whitman et al., 2021), found very large effect sizes for the differentiation of individuals who were asked to either overreport or whose responses were determined to be overreporting by an external criterion and recognized as distinct from those who possessed authentic psychopathological or medical issues. For underreporting, the MMPI-3 Uncommon Virtues (L) and Adjustment Validity (K) scales have shown “good promise and utility in the identification of underreporting” (Sharpe et al., 2022).

However, while there have been studies which have investigated the amount of invalid responding in various types of samples, the literature appears to be absent of any comprehensive appraisals among specifically any clinical or forensic samples which utilize open-source detection methods; such an exclusion seems noteworthy given the established hypothesis that increased levels of particular maladaptive personality traits potentially contribute to response bias (Sharpe et al., 2022; Burchett et al., 2023; Ray et al., 2013; Sleep et al., 2017).

In addition to response bias measures embedded in existing measures, there are also ways to assess constructs such as social desirability and overreporting with stand-alone measures. Socially desirable responding, a form of underreporting, is a construct which has several

free-standing scales which aim to assess it, such as the Marlowe-Crowne Social Desirability Scale (MCSDS, Crowne & Marlow, 1960). One of the most notable and well-validated measures for socially desirable responding is the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1988). The BIDR contains a total of 40 self-report items divided into two 20-item subscales: Self-Deceptive Enhancement (SDE) and Impression Management (IM); these subscales equate to facets which comprise Paulhus's (1984) model of socially desirable responding. Whereas the SDE subscale is considered to be a measure of a socially desirable response style that is non-deliberate, the IM subscale aims to measure a style that is more "deliberate" (Burchett et al., 2023). The BIDR-16 (Hart et al., 2015) is a 16-item short form of the BIDR that has been developed which shows psychometric promise and is well-suited for utilization in research.

In summary, there are a variety of ways invalid responding may occur on self-report questionnaires, such as overreporting, underreporting, etc., which can happen for a number of reasons (Burchett et al., 2023). In response to this, there have been a variety of modes by which invalid responding is assessed, including built-in validity scales and stand-alone validity measurements; the ability to utilize these validity assessment tools is considered an advantage of employing self-report questionnaires in both assessment and research (Widiger & Samuel, 2005b). However, aside from self-report scales, there exist other ways in which personality pathology is assessed.

### **Alternative Forms of Assessing Personality Disorder**

While self-report measures are an increasingly prevalent means by which personality is assessed, there have also been developed structured interviews which aim to evaluate personality pathology. The Structured Clinical Interview for DSM-5 Personality Disorders (SCID-5-PD) is a

semi-structured diagnostic interview used to assess DSM-5 personality disorders, which may be utilized to make diagnoses for personality disorders “either categorically (present or absent) or dimensionally” (First et al., 2015a). The SCID-5-PD consists of questions which aim to assess the *DSM-5* criteria for all 10 *DSM-5* PDs. The structure of the SCID-5-PD is similar to previous SCID interviews, which allows clinicians to pose questions in order to elicit specific information that aids the interviewer in determining whether or not specific diagnostic criteria are met (First & Gibbon, 2004; First et al., 2015a). In addition to interview questions, the SCID-5-PD has an optional Structured Clinical Interview for DSM-5 Screening Personality Questionnaire (SCID-5-SPQ), which is a self-report screening tool consisting of 106 questions which correspond directly to the each initial question in the full SCID-5-PD (First et al., 2015a).

In interview settings like the SCID-5-PD, varying types of response validity, such as response consistency, are “assessed” by the clinician conducting the structured-interview. It is expected that while the clinician is engaged in interviewing the individual, they are being attentive towards whether the individual’s responses make sense or whether the individual’s responses show indications of bias. While issues of response validity in interview settings are not typically studied, they may be just as relevant as response bias and inconsistency in self-report measures due to the assumption that the interviewer would be cognizant of it.

Reviews suggest that the preferred method for PD assessment in clinical settings is the semi-structured interview (Widiger & Samuel, 2005b; Rogers, 2001; Zimmerman, 2003). Widiger and Samuel (2005b) argue for utilizing self-report questionnaires to assess personality pathology prior to the administration of a semistructured interview in order to pinpoint which aspects of personality pathology should be focused on in a subsequent interview. Additionally, the authors note that self-report questionnaires also can be advantageous in their inclusion of

validity scales which “can alert the clinician to response sets, biases, and distortions that might compromise the validity of the clinical assessment” (Widiger & Samuel, 2005b). The authors suggest a “two-step” procedure for obtaining an accurate assessment of personality pathology, which includes: “(a) Administer a self-report inventory to alert oneself to the potential presence of particular maladaptive personality traits, and (b) administer a semistructured interview to verify and document their presence” (Widiger & Samuel, 2005b; Widiger, 2002). Ultimately, given that PD assessment and research is heavily reliant on self-report information, it is crucial to take into account the number of ways in which such information could possibly be compromised or invalid due to imprecise self-reporting.

### **ICD-11 Dimensional Personality Disorder Model**

While a number of measures exist to capture personality pathology (Burchett et al., 2023; Sharpe et al., 2022), there are two major diagnostic systems that provide guidance on the diagnosis of personality disorders: the Diagnostic and Statistical Manual of Mental Disorders (DSM) and the International Classification of Diseases (ICD). The DSM-5 contains a categorical model for conceptualizing personality pathology, with discrete disorders for diagnosis. However, included in Section III of the DSM-5 is the Alternative Model for Personality Disorders (AMPD), which aims to consider personality disorder as more dimensional by having criteria which assess both severity of impairment and presence of pathological personality traits (Oldham, 2015; American Psychiatric Association, 2013). The trait system of the AMPD has been found to significantly correlate with the Five Factor Model of personality (Krueger et al., 2014). The major self-report measure of the DSM-5 AMPD is the Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012).

The previous version of the ICD (ICD-10) also included a series of categorical personality disorders, although they varied somewhat in content from the DSM disorders. However, the ICD-11 personality disorders represent a major shift in personality disorder diagnosis. The eleventh edition of the International Classification of Diseases (ICD-11) provided the first fully dimensional model for personality disorders in an official classification system (Clark et al., 2021). This dimensional model differs significantly from previous conceptualizations of personality disorders as discrete categorical disorders. Historically, two of the most pervasive issues regarding categorical classifications are immoderate amounts of diagnostic co-occurrence and irresolvable disputes over diagnostic boundaries (Widiger & Samuel, 2005a).

In contrast to categorical models of personality pathology, the ICD-11 contains a personality disorder (PD) diagnosis which is organized across differing levels of severity (World Health Organization, 2020; Clark et al., 2021). Additionally in this model, a PD diagnosis can be detailed by qualifiers, based upon five personality trait dimensions, which aim to highlight the most prominent characteristics of an individual's personality (World Health Organization, 2020; Clark et al., 2021).

In the ICD-11, PD is conceptualized as a significant disruption in an individual's personality functioning which, more often than not, is associated with substantial social and personal perturbation (WHO, 2023). The core features of PD are impairments in interpersonal functioning (e.g., managing conflict in relationships) and/or self-functioning (e.g., stability and coherence of one's sense of identity); these impairments manifest as "maladaptive (e.g., inflexible or poorly regulated) patterns of cognition, emotional experience, emotional expression, and behavior" (WHO, 2023). Additional features of PD are that the noted dysfunction has been

persistent over an extended period of time and manifests across different personal and social situations, though it has the potential to be regularly elicited by specific types of circumstances but not others. Furthermore, PD is associated with considerable distress or impairment in important areas of functioning, such as personal, social, and/or occupational functioning (WHO, 2023).

Upon establishing a diagnosis of PD, the ICD-11 model necessitates determining an appropriate severity level descriptor. In this model, there are 3 levels: Mild Personality Disorder, Moderate Personality Disorder, and Severe Personality Disorder. There are a number of specific aspects of personality functioning which contribute to determining PD severity. The first feature is the degree and pervasiveness of issues in self-functioning, such as capacity for self-direction stability and coherence of sense identity. Similar to this feature is the second facet of PD severity, which is the degree and pervasiveness of interpersonal dysfunction which covers different relationships and contexts, such as interest in engaging in relationships with others and ability to develop and maintain close and mutually satisfying relationships. The third PD severity feature is the pervasiveness, severity, and chronicity of emotional, cognitive, and behavioral manifestations of personality dysfunction. Emotional manifestations of personality dysfunction include the tendency to be emotionally over- or underreactive, the range and appropriateness of emotional experience and expression, and ability to recognize and acknowledge unwanted emotions, such as anger or sadness. Cognitive manifestations of personality dysfunction include the ability to make appropriate decisions in situations of uncertainty, appropriate stability and flexibility of belief systems, and accuracy of situational and interpersonal appraisals, especially under stress. Additionally, noted behavioral demonstrations of personality dysfunction include flexibility in controlling impulses and modulating behavior based on the situation and consideration of the

consequences, and appropriateness of behavioral responses to intense emotions and stressful circumstances. Lastly, the final determination aspect of PD severity is the extent to which the dysfunctions in the previously mentioned areas are associated with distress or impairment in important areas of functioning, such as social or occupational.

Once the severity level is established based upon the person's self and interpersonal functioning, the nature of the PD can be characterized using five trait domains. The five personality trait dimensions which are utilized by the ICD-11's PD model are as follows: Negative Affectivity, Detachment, Dissociality, Disinhibition, and Anankastia. The trait domain of Negative Affectivity's most central feature is the propensity for the individual to experience a wide range of negative emotions. Negative Affectivity commonly manifests in a number of ways, such as: negativistic attitudes, low self-esteem and self-confidence, and/or mistrustfulness. Additionally, individuals high on Negative Affectivity may demonstrate emotional lability and poor emotion regulation, and/or experience a broad range of negative emotions with a frequency and intensity out of proportion to the situation. The defining feature of the Detachment trait domain is the propensity to maintain emotional and interpersonal distance. More specifically, individuals high in Detachment display social detachment (e.g. avoidance of social interactions, lack of friendships) and/or emotional detachment (e.g., limited emotional expression and experience, aloofness). For the Dissociality trait domain, its defining characteristic is disregard for the rights and feelings of others, which encompasses both self-centeredness (e.g., sense of entitlement) and lack of empathy (e.g., indifference to whether one's actions inconvenience others or hurt them in any way). The central feature of the Disinhibition trait domain is an individual's predisposition to act rashly based on immediate stimuli without the consideration of possible negative ramifications; typical expressions of Disinhibition are impulsivity,

distractibility, irresponsibility, recklessness, and lack of planning. Lastly, the main feature of the Anankastia trait domain is an individual's narrow concentration on their own rigid standards of right and wrong and of perfection, in addition to controlling their own and others' behaviors along with controlling situations in order to assure conformity to said standards; typical manifestations of the Anankastia trait domain include perfectionism as well as emotional and behavioral constraint.

### **Assessing the ICD-11 PD Model**

The implementation of a fully dimensional PD model prompted the development of new measures aimed at assessing dimensional personality pathology. A number of measures were created in order to address ICD-11 PD severity, such as the Standardized Assessment of Severity of Personality Disorder (SASPD; Olajide et al., 2018) and the Personality Disorder Severity ICD-11 (PDS-ICD-11; Bach et al., 2021). Some of the developed instruments arose from work related to the AMPD in Section III of the DSM-5, and were influenced by previously existing instruments which assess personality traits in the maladaptive range, such as the Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012). Additionally, Oltmanns and Widiger (2018; 2020) developed measures which were based off of the ICD-11 PD trait qualifiers outlined by Tyrer et al. (2015); these trait qualifiers are similar to those in the statistical manual of the ICD-11 but not exactly the same, as the work on the model continued to evolve after Tyrer et al. published their description.

Despite the influx of instruments to assess dimensional personality pathology, no existing measure addressed the combination of PD severity and trait qualifiers that was based upon ICD-11 guidelines. More specifically, no existing measure taps into both the trait dimensions of personality pathology as well as the functioning aspect of PD. Therefore Clark et al. (2021)

developed a new, yet-to-be-named measure that we are calling the ICD-11 Personality Disorder Measure (PSI-11) for the purpose of this study. It was developed based upon the WHO's "Clinical Descriptions and Diagnostic Requirements" (CDDR), which provide a brief definition, essential (or required) features, boundaries with normality, boundaries with other disorders (including differential diagnoses), course features, additional features, as well as gender and culture-related features, for all mental and behavioral disorders potentially encountered in psychiatry (First et al., 2015b). The CDDR specifically for personality disorder assesses both PD severity as well as the qualifiers of the five personality trait dimensions.

Initial results from Clark et al. (2021) showed that the PSI-11 demonstrates acceptable validity. As stated previously, item development for the PSI-11 was guided by the CDDR. More specifically, Clark et al. (2021) utilized the CDDR's "rationally based, narrative, prototypic descriptions" of personality pathology and the five trait domains in order to construct "structured, more formalized subcomponents of disorder definitions" in order to create an outline for item development (p. 5). This outline was utilized by the authors to write items for each component and subcomponent of the dimension for PD-severity in addition to those of the five trait domains, which resulted in an initial pool of 992 items (Clark et al., 2021). The initial item pool was then narrowed down through group consensus of preferred choices of items among those that were highly similar, and then members of the research team rated the items within the different dimension subcomponents, and the highest ranked items for each area were chosen to be included in the final item set (Clark et al., 2021). In total, the final item pool consisted of 300 items.

Clark et al. (2021) began their analyses by examining inter-item correlations, and if two items were correlated more than .70 then just one item was selected to represent their shared

content. Next, the authors conducted an exploratory one-factor principal factor analysis (PFA) on the items of each the seven domains (e.g., the five personality dimensions and the two functioning domains) in order to assess unidimensionality; the researchers constructed component scales for each of the empirical subdomains, which were then assessed for internal consistency (Clark et al., 2021). Results from the PFA indicated that there were two primary components for each domain, with the exception of self-pathology and negative affectivity, which were determined to both have three primary components (Clark et al., 2021). Following this, the authors conducted interscale correlations among the seven domain scales, which found that correlations among the PD trait-domain scales ranged from -0.04 (Disinhibition and Anankastia) to 0.58 (Negative Affectivity and Detachment), and correlations between the PD-severity and trait domains ranged from -0.23 to 0.76 ( $M = 0.32$ ; Clark et al., 2021).

However, Clark et al. (2021) did not include any embedded measure of response validity. Given the importance of assessing response validity for clinical and research purposes, the aim of the proposed study is to construct an inconsistency scale for the newly developed PSI-11. We will follow an established protocol for developing an inconsistency scale that begins by identifying highly correlated items and then calibrates the scale by identifying random relative to real responses (e.g., Handel et al., 2010; Pincus, 2005). To help examine the criterion validity of the new inconsistency scale, we will compare it to a previously contrived inconsistency scale for the PID-5 (Keeley et al., 2016), as well as a measure aimed at assessing desirable responding (the BIDR-16; Hart et al., 2015). The construction of an inconsistency scale for the PSI-11 will hopefully afford the opportunity for both researchers and clinicians to be better able to identify invalid responding in self-report, specifically within the context of the ICD-11's new PD model.

## Methods

### Participants

This study utilized a data set of 341 participants who were recruited through Amazon's Mechanical Turk (MTurk), a crowdsourcing website that allows individuals to complete different jobs and tasks in exchange for compensation. In order to take part in the study, potential participants had to be at least 18-years-old and proficient in English. Participants who submitted a complete response which passed embedded validity checks were paid \$6.00 USD.

### Procedure

Upon selecting the study in MTurk, participants were directed from MTurk to Qualtrics, an online survey platform, where all of the measures included in the study were administered. Participants began by reviewing an information sheet and indicating their willingness to consent to study procedures. Next, participants completed questions about demographic information, such as race and gender, as well as answering a question about their proficiency in English. After this section, the participants were asked to fill out the rest of the study's measures, which were presented in a randomized order. After completing all measures, participants were thanked and dismissed; this final page of the survey included referral information for suicide hotlines in the US and in other countries for interested individuals.

### Measures

**Demographics.** Participants answered items aimed at assessing various demographic aspects, specifically: age, gender identity, sexual orientation, race/ethnicity, country of residence, proficiency in English, education level, employment, and utilization of mental health services.

**ICD-11 Personality Disorder Measure (PSI-11).** Clark et al. (2021) developed the PSI-11, a self-report measure to assess the dimensional personality disorder (PD) model in the

ICD-11. This model contains a PD dysfunction-severity dimension, consisting of both self and interpersonal dysfunction. The ICD-11 model also consists of five personality trait domains (Negative Affectivity, Detachment, Dissociality, Disinhibition, and Anankastia), as well as a borderline qualifier based upon DSM-IV criteria for borderline personality disorder (Clark et al., 2021). The PSI-11 contains 300 items of how the participant would describe themselves, and utilizes a 4-point Likert scale, with 1 indicating “very or often false”, 2 indicating “sometimes or somewhat false”, 3 indicating “sometimes or somewhat true”, and 4 indicating “very or often true”.

**Personality Inventory for DSM-5 (PID-5).** Krueger et al. (2012) developed the PID-5 as a measurement of maladaptive personality for the dimensional personality trait model in Section III of the DSM-5. The PID-5 consists of 220 items, and features 25 facets which make up five domains: negative affect, detachment, antagonism, disinhibition, and psychoticism. The self-report items are rated on a 4-point Likert scale, with 0 indicating “very false or often false”, 1 indicating “sometimes or somewhat false”, 2 indicating “sometimes or somewhat true”, and 3 indicating “very true or often true”. The PID-5 demonstrates validity and reliability, with internal consistency values ranging from  $\alpha = .92$  (Antagonism) to  $.95$  (Psychoticism) (Anderson et al., 2015) and test-retest reliability ranging from  $\alpha = .92$  (Antagonism and Detachment) to  $.95$  (Negative affectivity) (Dhillon & Bagby, 2015). This study will utilize an inconsistency scale developed for the PID-5 (Keeley et al., 2016) as an external validator examining convergent validity of the inconsistency scale developed in this study.

**The Balanced Inventory of Desirable Responding Short Form (BIDR-16).** The BIDR-16, developed by Hart et al. (2015), is a shortened version of the 40-item Balanced Inventory of Desirable Responding (BIDR). This short form retains the two-factor structure of

the original BIDR of assessing Self-Deceptive Enhancement (SDE) and Impression Management (IM) (Hart et al., 2015). The measure consists of 16 items which are rated on a 7-point scale ranging from 1 indicating “not true” and 7 indicating “very true” (Paulhus, 1991). The BIDR-16 demonstrated acceptable construct validity, with both the IM and SDE factors correlating appropriately with a different and commonly used SDR scale ( $r = .53$  and  $.32$ ,  $p < .001$ , respectively) as well as self-enhancement indices and Big Five personality traits (Hart et al., 2015). Additionally the measure demonstrated adequate reliability across studies, with SDE ranging from  $\alpha = .64$  to  $.69$  and IM ranging from  $\alpha = .71$  to  $.73$ , in addition to scores on the BIDR-16 remaining stable over a two week period with test–retest reliability for SDE at  $r = .79$ , and for IM at  $r = .74$  (Hart et al., 2015). The BIDR-16 will be used as an external validator examining discriminant validity of the inconsistency scale developed in this study.

## **Results**

### ***Scale Development***

The prevailing form of inconsistency scale development involves determining the difference between items pairs which are coupled together based upon either a theoretical rationale (e.g., the meaning of the item) or empirical rationale (e.g., correlations; Greene, 1978; 1979; Berry et al., 1991; Pineseault, 1998; 2005; Handel et al., 2010). Therefore at the onset of analyses, we utilized item-to-item correlations in order to ascertain item pairs.

With an established correlation cutoff of  $.6$ , we identified 245 item pairs. There were a number of individual items which highly correlated with multiple other identified items. For example, for Item 28, there was a correlation of  $.6$  or greater with Items 75, 78, 158, and 175, whereas Item 158 was highly correlated with Items 59, 78, 154, 175, and 288. In response to the

occurrence of multiple high-correlation item pairs sharing an item, redundant pairs were strategically eliminated in order to maximize the total number of unique pairs, with more highly correlated pairs being given privileged selection to be included in the inconsistency scale. Therefore, there was no single item which appeared in multiple item pairs. Each of the items paired together belonged to the same domain, which is demonstrative of the items being both empirically and theoretically related.

This process resulted in 68 final item pairs. Each participant had an inconsistency score generated for them by taking the absolute value of the discrepancy between the responses of the participant for each item in each item pair and summing these values. The identified discrepancy could range from 0 (indicative of perfect consistency) to 3 (indicative of perfect inconsistency) per item; therefore, the total inconsistency scale score had a minimum of 0 and a maximum of 204. Table 1 shows the item pairs that were selected for the scale and their respective correlations.

Table 1. Item pairs selected for the inconsistency scale.

Item Pair	Domain	r
26–40	Anankastia	.675
44–69	Anankastia	.667
72–132	Anankastia	.643
125–206	Anankastia	.610
136–240	Anankastia	.645
143–257	Anankastia	.697
171–201	Anankastia	.626
238–256	Anankastia	.620
252–286	Anankastia	.634

212–296	Detachment	.644
277–287	Detachment	.738
16–64	Detachment	.627
22–220	Detachment	.656
24–231	Detachment	.629
38–180	Detachment	.708
43–71	Detachment	.662
56–22	Detachment	.660
73–88	Detachment	-.717
80–174	Detachment	.626
90–96	Detachment	.785
94–300	Detachment	.635
112–198	Detachment	.623
122–137	Detachment	.675
184–254	Detachment	.710
190–194	Detachment	.748
203–293	Detachment	.769
242–271	Detachment	.675
54–60	Disinhibition	.663
124–189	Disinhibition	.742
138–156	Disinhibition	.656
161–177	Disinhibition	.688
168–258	Disinhibition	.646
1–263	Dyssociality	.647
10–279	Dyssociality	.604
36–49	Dyssociality	.658

61–274	Dyssociality	.648
95–121	Dyssociality	.765
153–159	Dyssociality	.706
171–189	Dyssociality	.617
200–209	Dyssociality	.654
253–282	Dyssociality	.602
259–284	Dyssociality	.690
28–158	Negative Affectivity	.643
100–288	Negative Affectivity	.614
102–160	Negative Affectivity	.661
164–250	Negative Affectivity	.771
154–244	Negative Affectivity	.765
78–175	Negative Affectivity	.799
75–297	Negative Affectivity	.653
59–113	Negative Affectivity	.614
202–299	Negative Affectivity	.658
57–266	Negative Affectivity	-.674
17–237	Interpersonal Dysfunction	.608
50–144	Interpersonal Dysfunction	.632
52–165	Interpersonal Dysfunction	.646
89–227	Interpersonal Dysfunction	.760
98–213	Interpersonal Dysfunction	.621
115–197	Interpersonal Dysfunction	.607
151–268	Interpersonal Dysfunction	.705
172–294	Interpersonal Dysfunction	.672
239–262	Interpersonal Dysfunction	.645

14–228	Self Dysfunction	-.611
53–241	Self Dysfunction	.652
62–93	Self Dysfunction	.637
99–273	Self Dysfunction	.650
103–280	Self Dysfunction	.665
139–141	Self Dysfunction	-.721
188–218	Self Dysfunction	.681

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### ***Scale Evaluation***

It is to be expected that an inconsistency scale can differentiate consistent and inconsistent responding (Burchett et al., 2023). Therefore, the next step in our development of an inconsistency scale was to compare genuine participant responses to randomly generated responses. This process began by us determining inconsistency detection at the group-level. To initiate this process, we utilized a random number generator to generate fully random responses as a comparison group relative to our real participants. The aim of conducting group-level analysis is to help determine the optimal cut point for the inconsistency scale using discriminant function analysis, and whether or not that cut point remains stable with smaller percentages of random data. To start, we had a dataset of fully random responses which was equal to the number of real responses in the original dataset. We then combined this generated dataset with the original dataset, which resulted in a dataset which contains 50% genuine responses and 50% randomly generated responses. The dataset was coded such that real participants were given a value of 1 and random data was assigned a value of 2. After this, we conducted a discriminant function analysis in order to discover the optimal cutpoint for discerning when a set of responses appears to be random. The result of the discriminant function was a statistically significant

prediction of group membership, Wilks'  $\lambda(1, 339) = .145, p < .001$ , and the function ( $Y = .106X - 5.709$ ) correctly predicted 98.8% of group members.

In order to ascertain an optimal cut point, a receiver operating characteristic (ROC) analysis was conducted next. The sensitivity, specificity, and Youden's index for various cut points ranging from 61.5 to 67.5 are displayed in Table 2. When making a selection of a cut point, the sensitivity and specificity values should be balanced by the optimal cut point. Therefore, we examined the Youden's index values—which is a metric that equally balances sensitivity and specificity—of the ROC analysis to find the point at which the value of the statistic was at its maximum before decreasing. Based upon the analysis, it was determined that a score of 65 is the optimal cut point for the scale.

Table 2. Outcomes for varying cut points on the inconsistency scale.

Cut point	Sensitivity	Specificity	Youden's Index
61.5	1.000	.982	.982
62.5	1.000	.988	.988
63.5	1.000	.991	.991
65	.997	.997	.994
66.5	.991	.997	.988
67.5	.985	.997	.982

Discriminant functions operate most favorably when its groups are approximately equal in size. However, for most circumstances in reality, only a smaller portion of the data would be inconsistent. Therefore, we elected to calculate datasets with diminishing amounts of random data in order to observe the performance of the inconsistency scale. In order to do this, we elected to compare the sensitivity and specificity for a cut point of 65 based upon differing

amounts of substituted random data, displayed in Table 3 as the results for varied random data amounts between 10% and 100%. For all amounts of random data including and between 10% to 90%, sensitivity and specificity were 1.00 and .997, respectively. When examining the dataset where 100% of random data was added, sensitivity and specificity were both .997.

Table 3. Outcomes on the inconsistency scale for varying percentages of random data at the group level.

Random data %	Sensitivity	Specificity	False Positive	False Negative
10	1.00	.997	1	0
20	1.00	.997	1	0
30	1.00	.997	1	0
40	1.00	.997	1	0
50	1.00	.997	1	0
60	1.00	.997	1	0
70	1.00	.997	1	0
80	1.00	.997	1	0
90	1.00	.997	1	0
100	.997	.997	1	1

We next proceeded to analyze the data at the individual-level. Individual-level analysis can determine if the scale is capable of picking up on partial random responding from a real individual, in addition to the specific amount of partial responding which is necessary for detection. Given that it would be realistic for a participant to randomly respond to merely a portion of the measure, it is essential to investigate the inconsistency scale's ability to distinguish between differing degrees of random responses. Therefore, we began by replacing different

segments of the data with random values that are calculated using a random number generator. The items which were replaced were selected at random and varied across participants. We started by replacing 10% of the data for a participant, so that the particular values for each participant were replaced with a random value for 10% of the items. Then, we repeated the item replacement process by raising the amount of random data by increments of 10% until achieving a data set where the entirety of the data was replaced for selected participants. After this, we conducted discriminant function analyses and ROC analyses; the results of these analyses are displayed in Table 4.

Table 4. Outcomes on the inconsistency scale for varying percentages of random data at the individual level.

Random data %	Sensitivity	Specificity	False Positive	False Negative	% Predicted Real	% Predicted Fake
10	.064	.994	1	159	96.5	3.5
20	.171	.994	1	141	91.2	8.8
30	.400	.994	1	102	79.8	20.2
40	.718	.994	1	48	63.9	36.1
50	.888	.994	1	19	55.4	44.6
60	.941	.994	1	10	52.8	47.2
70	.976	.994	1	4	51.0	49.0
80	1.00	.994	1	0	49.9	50.1
90	.994	.994	1	1	50.1	49.9
100	1.00	.994	1	0	49.9	50.1

***External Validation***

The BIDR-16 was utilized as an external validator to compare this study's inconsistency scale against in order to assess for discriminant validity. As the BIDR-16 assesses impression management, elevated scores on this scale should indicate that the person responded to the content of the items, which should hold no substantial relationship to the inconsistency scale that detects random responding. Total item scores were calculated for both the SDE and IM subscales of the BIDR-16 by employing continuous scoring, as has been recommended in lieu of the traditional dichotomous scoring (Kam, 2013; Hart et al., 2015). Then, we ran a bivariate correlation to compare the SDE and IM subscales with the developed inconsistency scale. It was found that this study's scale was significantly correlated with the SDE subscale ( $r = .262, p < .001$ ) and the IM subscale ( $r = .152, p = .005$ ) of the BIDR-16 but the size of the correlations was small (Cohen, 1988).

In addition to the BIDR-16, we employed the inconsistency scale developed for the PID-5 (Keeley et al., 2016) as an additional external validator for our developed PSI-11 inconsistency scale. The comparison of the PID-5's inconsistency scale with the scale developed in this study allows us to assess convergent validity, as the two scales, theoretically, should be detecting the same occurrence of invalid responding. Random data was generated and added to the dataset, so that it represented 50% real PID-5 item responses and 50% randomly generated data. The dataset was coded so that real participants were given a value of 1 and random data was assigned a value of 2. Then, using the PID-5 item pairs identified by Keeley and colleagues (2016), item pair differences were calculated, and upon completion of those calculations, a discriminant function analysis was conducted. The discriminant function analysis produced a statistically significant prediction of group membership, Wilks'  $\lambda(1, 339) = .164, p < .001$ , and correctly predicted 98.5% of group members. Then, to assess for an optimal cutpoint, a ROC

analysis was conducted, and the calculated values for Youden's index were examined, which demonstrated an ideal cutpoint of 15.5 ( $J = .979$ ). Following this, a bivariate correlation was run to compare the item difference totals of the inconsistency scores for the PID-5 and the PSI-11, and the two were found to be significantly related ( $r = .281, p < .001$ ) at a small effect size (Cohen, 1988).

### **Discussion**

In the process of this study, we were able to identify a total of 68 item pairs for use in the inconsistency scale. This number of item pairs is rather high relative to other inconsistency scales; however, it is arguably comparable to the MMPI-3's VRIN scale which consists of 53 item response pairs (Burchett & Bagby, 2022). Theoretically, having such a substantial amount of item pairs is advantageous for assessing invalid responding, as more item pairs allows for increased opportunity to identify inconsistent responding and allow for increased performance of the scale overall.

The inconsistency scale developed in this study was able to differentiate between genuine and random responding. The group-level analyses conducted revealed an optimal cutpoint of 65 for the inconsistency scale, meaning that response totals above 65 are indicative of invalid responding. Using this determined cutpoint, the discriminant function analyses showed that the inconsistency scale, at the group level, demonstrated both high sensitivity and high specificity, irrespective of the amount of random data in the dataset. The results revealed a very limited number of false positives and negatives when the entirety of the data was random. This cut point also indicates that the scale would tolerate a fair amount of inconsistency before flagging a response as problematic. As might be expected for real responses to a personality questionnaire,

people will not be identical in their responses to similar items, and small amounts of discrepancy will not likely result in false positives.

At the individual level of analysis, the inconsistency scale showed low levels of sensitivity and produced higher amounts of false negatives when the datasets contained smaller percentages of random data. These results indicate that the scale requires a more substantial amount of inconsistent responding in order for it to be detected. More specifically, at the individual level, the inconsistency scale required about half of the data to be random before it reached the point of detection seen similarly to when the data was entirely random. These findings are comparable to results from the Handel et al. (2010) study which found that the MMPI-2-RF version of the Variable Response Inconsistency (VRIN) scale was sensitive to moderate levels of random responding. Given what would be anticipated for real participant responses, we argue that the inconsistency scale allowing for some degree of inconsistency is a desirable property of the scale. However, the trade off is that the scale fails to detect smaller amounts of random responding, which appears similar to the meaningful levels of inconsistency that would be anticipated from a real individual.

Overall, our developed inconsistency scale performed better, generally, relative to comparable inconsistency scales, such as the MMPI's VRIN scale (Handel et al., 2010; Ingram & Ternes, 2016). The relatively higher sensitivity and specificity values for our scale are likely due to the greater number of item pairs incorporated in the scale, in that the increased number of item pairs allows for improved detection of invalid responding.

In this study, the BIDR-16 was utilized as an external validator for the developed inconsistency scale in order to assess discriminant validity. For the BIDR-16, the SDE subscale is thought of as a measure of a non-deliberate socially desirable response style, whereas the IM

subscale is intended to gauge a more “deliberate” response style (Burchett et al., 2023). More specifically, the BIDR-16 subscales aim to assess content-based invalid responding. In contrast, the inconsistency scale developed in this study intends to determine non-content-based invalid responses. Therefore, the BIDR-16 and our inconsistency scale should, theoretically, be uncorrelated. The results of our analyses showed that scores on the two subscales of the BIDR-16 were significantly correlated with this study’s inconsistency scale. However, in interpreting validity coefficient results, consideration is placed upon whether or not the correlation is within the anticipated range. Given that the correlation coefficients for both the SDE and IM subscales can both be interpreted as small, we argue that the results support the discriminant validity of this scale.

Additionally, a PID-5 inconsistency scale developed by Keeley and colleagues (2016) was used as an external validator for examining the convergent validity of the PSI-11 inconsistency scale. The two inconsistency scales were shown to correlate significantly, but the value of that correlation was lower than expected and in the same range as the correlations with the BIDR-16. The PID-5 inconsistency scale is based on a much smaller number of pairs, and thus has a much smaller potential range of variation, which could have attenuated the possible value of the correlation. Nonetheless, this finding was unexpected and should temper use of the scale until it can be investigated in future work. However, both scales were similarly able to discriminate real from random responses, which would support the convergent validity evidence for the PSI-11 inconsistency scale. Further, this study’s scale, at the individual level of analysis, performed similarly to the PID-5 inconsistency scale, in that both measures had trouble detecting lower rates of inconsistent responding, consistent with performances by similar scales for invalid responding (Handel et al., 2010; Keeley et al., 2016).

## **Limitations**

This study utilized a community sample which was predominantly white (78.0%), college-educated (54.8%), and employed full-time (36.7%), and consisted of a majority of individuals who had never sought services for mental and/or behavioral health (61.3%). Before our inconsistency scale is used generally, it would be worthwhile for future research to focus upon more racially/ethnically diverse populations with more varied education histories, to see if similar conclusions can be reached. There has been an overall lack of investigation into group identity differences in the performance of validity scales (Al-Dajani et al., 2016), which further impresses the need for our own scale to be examined within a more racially/ethnically diverse sample. Given that it will be attached to a measure of the ICD-11 personality disorder diagnosis, it is reasonable to expect that the measure would be adopted across a wide range of countries, cultures, and languages.

Additionally, future research should examine how the scale performs when administered to a clinical population, given that it would be important for the sake of further investigating the clinical utility of our scale. On a theoretical basis, we would anticipate a clinical population to display different levels of inconsistency. This would be especially true for a population consisting of individuals with a personality disorder, given that self-image instability is a core feature of personality pathology, in addition to the prominence of lack of insight within these individuals (Biberdzic et al., 2023). Due to the nature of our sample's demographics, clinical implications for this inconsistency scale are arguably limited.

## **Future directions**

The findings of this study necessitate future research considerations. Given that our scale showed an unexpectedly low relationship to the identified PID-5 inconsistency scale, a future

study should dedicate investigation into the relationship between the developed PSI-11 inconsistency scale and other personality measure validity scales, such as the MMPI'S VRIN scale. As stated previously, this study's scale requires additional validation with a clinical population, which should be explored in a future study, given that the PSI-11 will be used within clinical contexts for assessing personality pathology.

### **Implications for practice and research**

PD assessment and research are heavily reliant on self-report information, and self-reporting is compromised by invalid responding. Therefore, it is of importance to determine ways in which invalid responding within self-report of personality pathology can be assessed and considered, specifically with the use of inconsistency scales. Within both assessment and research, the ability to employ validity assessment tools is thought of as an advantage of the use of self-report surveys (Widiger & Samuel, 2005b). Thus, our development of this validity scale aids in the utilization and interpretation of the PSI-11 within these contexts. Further, this study contributes to the identified need for investigating valid responding within the context of research conditions specifically (Credé, 2010; Burchett et al., 2023)

### **Conclusion**

Results from our study indicate a potentially promising outlook on the utility of the scale in the administration of the PSI-11. With the identification of an inconsistency scale for the PSI-11, administration of this measure can be improved by affording researchers and clinicians a means by which to assess for invalid responding, which is a frequent threat to the validity of self-report information. More specifically, our inconsistency scale has the potential to aid clinicians and researchers in the improved identification of inconsistent responding on the PSI-11 measure. Further, this development of a validity scale for the PSI-11 supports Clark and

colleagues' (2021) aims of having the measure address the current deficits in the area of personality pathology assessment.

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## Appendix A

### ICD-11 Personality Disorder Measure (PSI-11)

Below are statements that people might use to describe themselves—their attitudes, opinions, interests, feelings, behaviors, relationships, and other characteristics. We are interested in how you would describe yourself. There are no right or wrong answers, and we will keep your responses confidential so you can describe yourself as honestly as you can. Read each statement and think about how well it describes you. Then select the response that best describes what you are like, using the following scale:

Very or Often False	Sometimes or Somewhat False	Sometimes or Somewhat True	Very or Often True
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1. I am or will be considered a great person.
2. People would describe my expression as "wooden."
3. I often overestimate my abilities.
4. I don't feel much, even when a major event occurs.
5. People have said that I am a mean person.
6. I am able to feel good about myself even when my life is not going well.
7. I hate it when someone breaks accepted rules of good behavior.
8. Almost all my qualities are admirable.
9. Most people give terrible advice.
10. I use flattery to get ahead.
11. I'm not good at planning ahead.
12. I hate being alone.
13. People have told me that I am reckless.
14. I know who I am.
15. I rarely get more than an hour of sleep at night. \*Validity check item
16. I often misjudge what I can and can't do.
17. I never get very emotional about anything.
18. My relationships often end up falling apart.
19. I feel bad for people who are being made fun of.
20. I seldom consider whether my actions are legal or not.
21. I avoid tasks that I think are too hard for me.
22. I seem to have the same arguments with people over and over.
23. I do not react to events as strongly as other people do.
24. I go to great lengths to avoid possible disagreement with others.
25. I prefer to stay in the background in social situations.
26. People have told me that I am too sure of myself.
27. I need to consider all alternatives before making a decision.
28. I'm often puzzled by my own behavior.
29. Others seem to be doing much better than I am.

30. I can't keep my attention on boring tasks.
31. People have called me a bully.
32. I feel I am treated fairly by others.
33. I don't understand how people's opinions can be so different from mine.
34. It's fine with me if others can see how I'm feeling.
35. I lose interest in tasks I can't complete quickly.
36. I am aware of my strengths and my limitations.
37. It amazes me that some people can't see that I'm special.
38. I've been told that I'm overly cautious.
39. My facial expression rarely changes.
40. I am able to work through conflicts in my relationships.
41. I consider every possible pro and con before making a decision.
42. I often fail to consider the consequences of my actions.
43. I enjoy a good brawl.
44. I try to get out of conversations as quickly as possible.
45. I avoid risks at all costs.
46. I enjoy being part of a couple.
47. Others say I try to develop close relationships too quickly.
48. I'm good at making quick decisions.
49. I'm comfortable making my own decisions.
50. It should be obvious that I deserve special treatment.
51. It is difficult for me to develop close relationships.
52. I consider others before making decisions.
53. I don't have much interest in developing relationships.
54. I feel that my life lacks direction.
55. I am easily distracted.
56. I lose my temper when people do not pay attention to me.
57. If I had the choice, I would live in poverty. \*Validity check item
58. I almost never expect to enjoy doing anything.
59. I forgive people easily.
60. I don't recover from setbacks as easily as other people do.
61. I give up easily.
62. Even the slightest noise or movement distracts me from my work.
63. I often forget to consider anyone else.
64. Failure hits me harder than anyone else I know.
65. I disapprove of others' displays of emotion.
66. I rarely experience strong emotions.
67. At a party I would rather engage in small talk than sit by someone in silence.
68. I redo other people's work to ensure it's done the way I think it should be.
69. I like activities that are risky, even a little dangerous.
70. Who I am changes a lot, even from day to day.
71. I won't do something if there's even a slight risk involved.
72. I find it hard to meet even small goals.
73. I try to avoid social interactions even with people I have known for years.
74. I think that public displays of emotion are inappropriate.
75. I have very few friends or even casual acquaintances.

76. I try to make friends with everybody I meet.
77. I see difficulties everywhere.
78. Others have noted my inflexibility, for example, in following plans.
79. Other people are much more emotionally expressive than I am.
80. My life is a failure.
81. Absolutely nothing can change how I feel about myself.
82. I don't tell others how I'm feeling.
83. It's dangerous to show your real feelings.
84. People have told me that I focus too much on minor details.
85. I am always on the lookout for something more enjoyable to do.
86. Most people are only looking out for themselves.
87. Sometimes, I just don't show up for appointments or meetings.
88. I need others to make decisions for me.
89. I never stay negative about myself for very long.
90. I have a lot of close friends.
91. I have several long-time, close friends.
92. I tend to remain emotionally distant from others.
93. I hardly ever get frustrated.
94. I act without thinking about the future.
95. Being criticized really affects how I feel about myself.
96. I don't enjoy social gatherings.
97. I take advantage of others to get what I want.
98. I do not allow people to get close to me.
99. I find it hard to ignore "get rich quick" schemes.
100. I haven't had much luck in getting close to other people.
101. I always blame myself when things go wrong.
102. I get irritable when things don't go smoothly.
103. I enjoy getting calls from telemarketers. \*Validity check item
104. The only way to make anything go smoothly is to plan every last detail.
105. I constantly worry about what might go wrong in the future.
106. It's hard for me to set goals for myself.
107. The end of any relationship is hard for me.
108. I have been criticized for not getting tasks done on time.
109. I'm generally able to reach my goals.
110. Hurting others' feelings does not bother me.
111. I'm good at setting realistic goals.
112. Others have said that it is hard to be in a relationship with me.
113. I do not care who I have to step on to get ahead.
114. If I see a chance to have fun, I can't turn it down.
115. It often seems that I simply have no feelings.
116. People have told me that I have a bad outlook on life.
117. I will be remembered in history.
118. It's hard for me to understand how other people think.
119. My surroundings have little effect on how I feel.
120. People view me very differently from how I view myself.
121. When I see something I like, I want to have it right away.

122. As soon as a relationship ends, I look for another one.
123. I keep complete control over how I show my emotions.
124. I deceive people to get what I want.
125. I can't remember the last time I felt excited about something.
126. I'm willing to wait for what I want.
127. Passing thoughts distract me from what I'm working on.
128. I swim across the Atlantic Ocean every day. \*Validity check item
129. I don't like to act until I'm positive that nothing bad will come of it.
130. I keep to myself even when I'm around other people.
131. I can't stay in a relationship if the person disagrees with me.
132. I do not tolerate being ignored.
133. I keep my options open just in case something fun comes up.
134. People have learned not to stand in my way.
135. I have never had any interest in sexual relations.
136. People should not show their emotions in public.
137. I do not see any benefits in having relationships.
138. Others have called me inconsiderate.
139. I follow through on whatever I say I will do.
140. Others have called me stubborn or inflexible.
141. I just don't seem to get interested in very many things.
142. I am easily distracted by whatever is going on around me.
143. I'm not sure where my life is going.
144. People have told me that it is hard to know what I am feeling.
145. I have clear goals for my life.
146. I do whatever it takes to keep the focus on me.
147. I insist that my home be kept perfectly neat and tidy.
148. When people try to get to know me, I push them away.
149. I never give much thought to making other people feel comfortable.
150. My goals provide direction for my life.
151. Friendships or other relationships mean very little to me.
152. There's nothing I can do to make my life better.
153. I just naturally do things that make people notice me.
154. People should meet all obligations no matter what.
155. I will do absolutely anything to maintain a relationship.
156. I keep to my opinions no matter what.
157. People should admire me.
158. Once I get upset, it takes me a long time to calm down.
159. It doesn't take much to make me violent.
160. Even if there's nothing to distract me, I struggle to stay on task.
161. Lying comes easily to me.
162. Life seems overwhelming to me.
163. Everyone should want to be like me.
164. I dwell on past mistakes.
165. I become frustrated by difficult tasks more quickly than others do.
166. Others say I persist at tasks much longer than is necessary.
167. No matter what others want I make sure that everything is the way I like it.

168. I have unpredictable emotions and moods.
169. Being friends with someone takes too much time and effort.
170. Neither compliments nor criticism affect me much.
171. I am a good judge of my own personality.
172. I often don't follow through with my plans.
173. I don't know where most of my emotions come from.
174. I put off having fun until my work is done.
175. I need to make sure that my work is perfect to the last detail.
176. I have trouble managing conflicts in my relationships.
177. No matter what happens to me, my sense of self never changes.
178. I keep my feelings to myself.
179. I dislike myself.
180. People have told me that I need to be more realistic about my strengths and weaknesses.
181. I am quick to give up on difficult tasks.
182. I avoid dealing with conflict in relationships.
183. I focus primarily on my own needs and wants.
184. My facial expression is the same no matter how I am feeling.
185. I put my own comfort ahead of anyone else's.
186. I don't understand why people in my life often end up leaving me.
187. I have sympathy for the suffering of others.
188. I don't like to be around other people.
189. I can usually appreciate other points of view, even if I disagree with them.
190. I am quick to take offence.
191. Others get upset with me for often breaking promises.
192. I often fail to follow through on my plans.
193. I have trouble staying focused, even on important tasks.
194. I express my feelings very openly.
195. I value close relationships.
196. I stop at nothing, even hurting other people, to get what I want.
197. I prefer to keep my options open right up until the last moment.
198. I share my feelings with others.
199. I really don't think about what other people need.
200. I feel envious when I see other people succeeding.
201. I find it difficult to understand other people's viewpoints.
202. I don't feel emotions the way others seem to.
203. I'm good at resolving disagreements with others.
204. I am good at manipulating others.
205. I have my own standards of perfection that must be met.
206. I find it difficult to trust others.
207. I don't like getting close to other people.
208. I demand perfection from others.
209. I get a lot of enjoyment out of life.
210. I avoid all activities with uncertain outcomes.
211. My sense of myself has developed over time.
212. I quickly become bored when doing routine tasks.

213. I have used others for my own gain.
214. I often get stuck on a particular approach to a problem, even if it's not working.
215. I'm often surprised by what other people say about me.
216. I enjoy connecting with people.
217. I just don't get other people.
218. I have threatened to harm other people.
219. There is no one standard for perfection.
220. I would never hit another person.
221. The perfect day is one that's planned down to the minute.
222. I often don't follow through on plans.
223. I am open to reconsidering my point of view.
224. I do not react to either positive or negative events as strongly as others seem to.
225. Others have called me a perfectionist.
226. I remain calm under pressure.
227. I often do things that unintentionally put others at risk.
228. What other people say about me rarely matches what I think about myself.
229. I can handle it when a relationship ends.
230. I do not have any close relationships.
231. I have several close and satisfying relationships.
232. I sometimes don't know who I really am.
233. I would refuse a job that requires me to interact with people.
234. I have engaged in activities that put others at risk.
235. People would describe me as reserved.
236. I believe in strict standards of right and wrong.
237. I don't understand why people want relationships.
238. I avoid unnecessary risks.
239. No excuses justify breaking the rules.
240. I shouldn't have to follow the same rules as everyone else.
241. My relationships are never very satisfying.
242. I insist on following set schedules.
243. I often wonder why people don't see things the way I do.
244. People have told me I'm too rigid.
245. I struggle to maintain a positive self-image.
246. I have significantly less interest in sex than my peers.
247. I would never intentionally hurt someone.
248. When I get worked up about something, it's hard for me to get back to normal.
249. I lack spontaneity.
250. I get pretty excited when I'm starting a new project.
251. I enjoy seeing others suffer.
252. I only try something if I'm sure I can succeed.
253. I am a warm person rather than cool and detached.
254. I have frequent mood swings.
255. I can stay focused on a task until it is finished.
256. I cannot let go of a task, unless I am certain it was done right.
257. I know I will achieve more than anyone I know.
258. I am more of a loner than most people.

259. There are a lot of activities that I find interesting.
260. I have a perfect daily routine that I refuse to change.
261. It is extremely important to me that everything be in its proper place.
262. I often fail to complete tasks that I'm supposed to do.
263. I expect others to admire all the good things that I do.
264. I can spend hours working out the details of even minor tasks.
265. I sometimes think that suicide is the only solution to my problems.
266. I don't understand why others think the way they do.
267. I've done many great things.
268. I often blurt things out without thinking of how it might make others feel.
269. My needs are more important than those of others.
270. I find it difficult to forgive those who have hurt me.
271. I am disciplined about following through with my plans.
272. I will do whatever it takes to keep a relationship from ending.
273. It is easy for other people to know how I feel.
274. I usually find other people's suggestions to be helpful.
275. Sexual relations have never been important to me.
276. It takes me a long time to weigh all the pros and cons before making a decision.
277. It takes me a long time to forgive myself when I make a mistake.
278. It just never occurs to me to think about what other people might want.
279. I hold everyone to very high standards.
280. I would not use others' weaknesses to my own advantage.
281. I go out of my way to meet people.
282. I never pass up a chance to get drunk or high.
283. I have pretended to like someone to get them to help me.
284. I never seem to be able to accomplish my goals.
285. Close relationships take time and effort to develop.
286. I know that I am superior to others.
287. Others tell me that I spend too much time making decisions.
288. I expect special treatment.
289. It's usually easy for me to understand other people's way of thinking.
290. I don't consider a task finished until it's perfect.
291. Wherever I go, I'm always striking up conversations with people.
292. Even a small setback makes me upset.
293. I often keep other people waiting.
294. I deserve to get whatever I want.
295. I find it difficult to understand when others get excited.
296. I take pleasure in hurting those who have wronged me.
297. I don't particularly like spending time with people.
298. I'm not very good at dealing with conflicts in my relationships.
299. The world would be better off without me.
300. I prefer working with people to working alone.
301. I expect the worst.
302. I rarely tell the truth.
303. Sooner or later, people always let you down.
304. I rarely enjoy being with people.

## Appendix B

### International Personality Item Pool–Interpersonal Circumplex (IPIP-IPC).

Below are a list of descriptors. Select a response which best indicates the accuracy of each statement in describing yourself.

Very Inaccurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate
1	2	3	4	5
<input type="checkbox"/> 1. Am quiet around strangers. ( <i>FG</i> )				<input type="checkbox"/> 17. Don't talk a lot. ( <i>FG</i> )
<input type="checkbox"/> 2. Speak softly. ( <i>HI</i> )				<input type="checkbox"/> 18. Seldom toot my own horn. ( <i>HI</i> )
<input type="checkbox"/> 3. Tolerate a lot from others. ( <i>JK</i> )				<input type="checkbox"/> 19. Think of others first. ( <i>JK</i> )
<input type="checkbox"/> 4. Am interested in people. ( <i>LM</i> )				<input type="checkbox"/> 20. Inquire about others' well-being. ( <i>LM</i> )
<input type="checkbox"/> 5. Feel comfortable around people. ( <i>NO</i> )				<input type="checkbox"/> 21. Talk to a lot of different people at parties. ( <i>NO</i> )
<input type="checkbox"/> 6. Demand to be the center of interest. ( <i>PA</i> )				<input type="checkbox"/> 22. Speak loudly. ( <i>PA</i> )
<input type="checkbox"/> 7. Cut others to pieces. ( <i>BC</i> )				<input type="checkbox"/> 23. Snap at people. ( <i>BC</i> )
<input type="checkbox"/> 8. Believe people should fend for themselves. ( <i>DE</i> )				<input type="checkbox"/> 24. Don't put a lot of thought into things. ( <i>DE</i> )
<input type="checkbox"/> 9. Am a very private person. ( <i>FG</i> )				<input type="checkbox"/> 25. Have little to say. ( <i>FG</i> )
<input type="checkbox"/> 10. Let others finish what they are saying. ( <i>HI</i> )				<input type="checkbox"/> 26. Dislike being the center of attention. ( <i>HI</i> )
<input type="checkbox"/> 11. Take things as they come. ( <i>JK</i> )				<input type="checkbox"/> 27. Seldom stretch the truth. ( <i>JK</i> )
<input type="checkbox"/> 12. Reassure others. ( <i>LM</i> )				<input type="checkbox"/> 28. Get along well with others. ( <i>LM</i> )
<input type="checkbox"/> 13. Start conversations. ( <i>NO</i> )				<input type="checkbox"/> 29. Love large parties. ( <i>NO</i> )
<input type="checkbox"/> 14. Do most of the talking. ( <i>PA</i> )				<input type="checkbox"/> 30. Demand attention. ( <i>PA</i> )
<input type="checkbox"/> 15. Contradict others. ( <i>BC</i> )				<input type="checkbox"/> 31. Have a sharp tongue. ( <i>BC</i> )
<input type="checkbox"/> 16. Don't fall for sob stories. ( <i>DE</i> )				<input type="checkbox"/> 32. Am not interested in other people's problems. ( <i>DE</i> )

Note: Italicized letters in parentheses indicate each item's octant scale.

\*Included additional validity check question: "Never use any form of technology."

## Appendix C

### The Personality Inventory for DSM-5 (PID-5)

This is a list of things different people might say about themselves. We are interested in how you would describe yourself. There are no right or wrong answers. So you can describe yourself as honestly as possible, we will keep your responses confidential. We'd like you to take your time and read each statement carefully, selecting the response that best describes you.

Very False or Often False	Sometimes or Somewhat False	Sometimes or Somewhat True	Very True or Often True
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1. I don't get as much pleasure out of things as others seem to.
2. Plenty of people are out to get me.
3. People would describe me as reckless.
4. I feel like I act totally on impulse.
5. I often have ideas that are too unusual to explain to anyone.
6. I lose track of conversations because other things catch my attention.
7. I avoid risky situations.
8. I would rather not have a large amount of debt. \*Validity check item
9. When it comes to my emotions, people tell me I'm a "cold fish".
10. I change what I do depending on what others want.
11. I prefer not to get too close to people.
12. I often get into physical fights.
13. I dread being without someone to love me.
14. Being rude and unfriendly is just a part of who I am.
15. I do things to make sure people notice me.
16. I usually do what others think I should do.
17. I usually do things on impulse without thinking about what might happen as a result.
18. Even though I know better, I can't stop making rash decisions.
19. My emotions sometimes change for no good reason.
20. I really don't care if I make other people suffer.
21. I keep to myself.
22. I often say things that others find odd or strange.
23. I always do things on the spur of the moment.
24. Nothing seems to interest me very much.
25. Other people seem to think my behavior is weird.
26. People have told me that I think about things in a really strange way.
27. I almost never enjoy life.
28. I often feel like nothing I do really matters.
29. I snap at people when they do little things that irritate me.
30. I can't concentrate on anything.
31. I'm an energetic person.
32. Others see me as irresponsible.

33. I can be mean when I need to be.
34. My thoughts often go off in odd or unusual directions.
35. I've been told that I spend too much time making sure things are exactly in place.
36. I avoid risky sports and activities.
37. I can have trouble telling the difference between dreams and waking life.
38. Sometimes I get this weird feeling that parts of my body feel like they're dead or not really me.
39. I am easily angered.
40. I have no limits when it comes to doing dangerous things.
41. To be honest, I'm just more important than other people.
42. I make up stories about things that happened that are totally untrue.
43. People often talk about me doing things I don't remember at all.
44. I do things so that people just have to admire me.
45. It's weird, but sometimes ordinary objects seem to be a different shape than usual.
46. I don't have very long-lasting emotional reactions to things.
47. It is hard for me to stop an activity, even when it's time to do so.
48. I'm not good at planning ahead.
49. I do a lot of things that others consider risky.
50. People tell me that I focus too much on minor details.
51. I worry a lot about being alone.
52. I've missed out on things because I was busy trying to get something I was doing exactly right.
53. My thoughts often don't make sense to others.
54. I often make up things about myself to help me get what I want.
55. It doesn't really bother me to see other people get hurt.
56. People often look at me as if I'd said something really weird.
57. People don't realize that I'm flattering them to get something.
58. I'd rather be in a bad relationship than be alone.
59. I usually think before I act.
60. I often see vivid dream-like images when I'm falling asleep or waking up.
61. I keep approaching things the same way, even when it isn't working.
62. I'm very dissatisfied with myself.
63. I have much stronger emotional reactions than almost everyone else.
64. I do what other people tell me to do.
65. I can't stand being left alone, even for a few hours.
66. I have outstanding qualities that few others possess.
67. The future looks really hopeless to me.
68. I purposefully fall for internet scams. \*Validity check item
69. I like to take risks.
70. I can't achieve goals because other things capture my attention.
71. When I want to do something, I don't let the possibility that it might be risky stop me.
72. Others seem to think I'm quite odd or unusual.
73. My thoughts are strange and unpredictable.
74. I don't care about other people's feelings.
75. You need to step on some toes to get what you want in life.
76. I love getting the attention of other people.

77. I go out of my way to avoid any kind of group activity.
78. I can be sneaky if it means getting what I want.
79. Sometimes when I look at a familiar object, it's somehow like I'm seeing it for the first time.
80. It is hard for me to shift from one activity to another.
81. I worry a lot about terrible things that might happen.
82. I have trouble changing how I'm doing something even if what I'm doing isn't going well.
83. The world would be better off if I were dead.
84. I keep my distance from people.
85. I often can't control what I think about.
86. I don't get emotional.
87. I resent being told what to do, even by people in charge.
88. I'm so ashamed by how I've let people down in lots of little ways.
89. I avoid anything that might be even a little bit dangerous.
90. I have trouble pursuing specific goals even for short periods of time.
91. I prefer to keep romance out of my life.
92. I would never harm another person.
93. I don't show emotions strongly.
94. I have a very short temper.
95. I often worry that something bad will happen due to mistakes I made in the past.
96. I have some unusual abilities, like sometimes knowing exactly what someone is thinking.
97. I get very nervous when I think about the future.
98. I rarely worry about things.
99. I enjoy being in love.
100. I prefer to play it safe rather than take unnecessary chances.
101. I sometimes have heard things that others couldn't hear.
102. I get fixated on certain things and can't stop.
103. People tell me it's difficult to know what I'm feeling.
104. I am a highly emotional person.
105. Others would take advantage of me if they could.
106. I often feel like a failure.
107. If something I do isn't absolutely perfect, it's simply not acceptable.
108. I often have unusual experiences, such as sensing the presence of someone who isn't actually there.
109. I'm good at making people do what I want them to do.
110. I break off relationships if they start to get close.
111. I'm always worrying about something.
112. I worry about almost everything.
113. I like standing out in a crowd.
114. I don't mind a little risk now and then.
115. My behavior is often bold and grabs peoples' attention.
116. I'm better than almost everyone else.
117. People complain about my need to have everything all arranged.
118. I always make sure I get back at people who wrong me.
119. I'm always on my guard for someone trying to trick or harm me.
120. I have trouble keeping my mind focused on what needs to be done.

121. I talk about suicide a lot.
122. I'm just not very interested in having sexual relationships.
123. I get stuck on things a lot.
124. I get emotional easily, often for very little reason.
125. Even though it drives other people crazy, I insist on absolute perfection in everything I do.
126. I almost never feel happy about my day-to-day activities.
127. Sweet-talking others helps me get what I want.
128. Sometimes you need to exaggerate to get ahead.
129. I fear being alone in life more than anything else.
130. I get stuck on one way of doing things, even when it's clear it won't work.
131. I'm often pretty careless with my own and others' things.
132. I am a very anxious person.
133. People are basically trustworthy.
134. I am easily distracted.
135. It seems like I'm always getting a "raw deal" from others.
136. I don't hesitate to cheat if it gets me ahead.
137. I check things several times to make sure they are perfect.
138. I don't like spending time with others.
139. I feel compelled to go on with things even when it makes little sense to do so.
140. I never know where my emotions will go from moment to moment.
141. I have seen things that weren't really there.
142. It is important to me that things are done in a certain way.
143. I always expect the worst to happen.
144. I try to tell the truth even when it's hard.
145. I believe that some people can move things with their minds.
146. I can't focus on things for very long.
147. I steer clear of romantic relationships.
148. I'm not interested in making friends.
149. I say as little as possible when dealing with people.
150. I'm useless as a person.
151. I'll do just about anything to keep someone from abandoning me.
152. Sometimes I can influence other people just by sending my thoughts to them.
153. Life looks pretty bleak to me.
154. I think about things in odd ways that don't make sense to most people.
155. I don't care if my actions hurt others.
156. Sometimes I feel "controlled" by thoughts that belong to someone else.
157. I really live life to the fullest.
158. I make promises that I don't really intend to keep.
159. Nothing seems to make me feel good.
160. I get irritated easily by all sorts of things.
161. I do what I want regardless of how unsafe it might be.
162. I often forget to pay my bills.
163. I don't like to get too close to people.
164. I'm good at conning people.
165. Everything seems pointless to me.

166. I never take risks.
167. I get emotional over every little thing.
168. It's no big deal if I hurt other peoples' feelings.
169. I never show emotions to others.
170. I often feel just miserable.
171. I have no worth as a person.
172. I am usually pretty hostile.
173. I've skipped town to avoid responsibilities.
174. I've been told more than once that I have a number of odd quirks or habits.
175. I like being a person who gets noticed.
176. I'm always fearful or on edge about bad things that might happen.
177. I never want to be alone.
178. I keep trying to make things perfect, even when I've gotten them as good as they're likely to get.
179. I rarely feel that people I know are trying to take advantage of me.
180. I know I'll commit suicide sooner or later.
181. I've achieved far more than almost anyone I know.
182. I can certainly turn on the charm if I need to get my way.
183. My emotions are unpredictable.
184. I don't deal with people unless I have to.
185. I don't care about other peoples' problems.
186. I don't react much to things that seem to make others emotional.
187. I have several habits that others find eccentric or strange.
188. I avoid social events.
189. I deserve special treatment.
190. It makes me really angry when people insult me in even a minor way.
191. I rarely get enthusiastic about anything.
192. I suspect that even my so-called "friends" betray me a lot.
193. I crave attention.
194. Sometimes I think someone else is removing thoughts from my head.
195. I have periods in which I feel disconnected from the world or from myself.
196. I often see unusual connections between things that most people miss.
197. I don't think about getting hurt when I'm doing things that might be dangerous.
198. I simply won't put up with things being out of their proper places.
199. I often have to deal with people who are less important than me.
200. I sometimes hit people to remind them who's in charge
201. I get pulled off-task by even minor distractions.
202. I enjoy making people in control look stupid.
203. I just skip appointments or meetings if I'm not in the mood.
204. I try to do what others want me to do.
205. I prefer being alone to having a close romantic partner.
206. I am very impulsive.
207. I often have thoughts that make sense to me but that other people say are strange.
208. I think that most people approve of low gas prices. \*Validity check item
209. I use people to get what I want.

210. I don't see the point in feeling guilty about things I've done that have hurt other people.
211. Most of the time I don't see the point in being friendly.
212. I've had some really weird experiences that are very difficult to explain.
213. I follow through on commitments.
214. I like to draw attention to myself.
215. I feel guilty much of the time.
216. I often "zone out" and then suddenly come to and realize that a lot of time has passed.
217. Lying comes easily to me.
218. I hate to take chances.
219. I'm nasty and short to anybody who deserves it.
220. Things around me often feel unreal, or more real than usual.
221. I'll stretch the truth if it's to my advantage.
222. It is easy for me to take advantage of others.
223. I have a strict way of doing things.

## Appendix D

### The Personality Inventory for ICD-11 (PiCD)

Below are statements that people might use to describe themselves—their attitudes, opinions, interests, feelings, behaviors, relationships, and other characteristics. We are interested in how you would describe yourself. There are no right or wrong answers, and we will keep your responses confidential so you can describe yourself as honestly as you can.

Read each statement and select the response that best indicates your level of agreement with each statement:

Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

1. I am usually an anxious person.
2. I tend to act impulsively.
3. I prefer to stay away from other people.
4. My anger has gotten me into fights.
5. I spend a large amount of time organizing and making arrangements.
6. When things do not go as planned in my life it upsets me greatly.
7. I am not a very responsible person.
8. Other people say I don't show my feelings.
9. Other peoples' problems are funny to me.
10. I do not take risks.
11. My mood often changes throughout the week.
12. I am not a very organized person.
13. I am quiet around others.
14. I can easily get people to do what I want.
15. I carefully think things through before I act.
16. When things are not going well for me, I become more nervous than most people.
17. I make rash decisions.
18. I donate regularly to the Alaina Howard Foundation. \*Validity check item
19. I am not very close with anyone.
20. I am much more competitive than other people.
21. Other people think that I'm a perfectionist.
22. After some problem it takes me a long time to get back to normal.
23. Sometimes I leave work without notifying my co-workers.
24. I feel pretty much the same all the time.
25. Some people deserve to be homeless.
26. I always choose the safest option.
27. Changes in my mood are unrelated to what is happening in my life.
28. I can be rather sloppy and disorganized.

29. I am best described as "bashful."
30. I often charm people that I don't really like.
31. I never act impulsively.
32. Other people notice my nervousness.
33. I like to act first and think later.
34. Other people say that I am distant and withdrawn.
35. I am always ready for conflict.
36. I strive for perfection.
37. I am thin-skinned.
38. When I feel like it, I fail to show up for work.
39. I have very rarely felt excited.
40. I am not concerned with hurting someone's feelings.
41. My top priority is being safe and secure.
42. I often alternate back and forth from feeling happy to feeling sad.
43. I don't worry about keeping to a set schedule or plan.
44. I talk less frequently than most other people.
45. I am a manipulative person.
46. I give every decision a lot of careful thought.
47. A lot of times I am fearful for no specific reason.
48. I often do things without thinking.
49. I would not mind living completely on my own without any human contact.
50. I am experienced in the art of confrontation.
51. I take great pride in doing high quality work.
52. I feel exposed.
53. I spend money on leisure when I have unpaid bills.
54. I don't feel emotions as much as other people.
55. I would be a good soldier because I wouldn't worry about harming someone.
56. I tend to be very cautious and careful.
57. My mood swings are much stronger than those of other people.
58. I don't follow any set order or plan when I work on something.
59. I am always a "wallflower" in social settings.
60. I have successfully deceived and manipulated persons.
61. I love the motto, "think before you act."

## Appendix E

### The Balanced Inventory of Desirable Responding Short Form (BIDR-16)

Select a number for each statement to indicate how much you agree with it:

1 (Not True)	2	3	4 (Somewhat True)	5	6	7 (Very True)
<input type="radio"/>						

1. I have not always been honest with myself.
2. I always know why I like things.
3. It's hard for me to shut off a disturbing thought.
4. I never regret my decisions
5. I sometimes lose out on things because I can't make up my mind soon enough.
6. I am a completely rational person.
7. I am very confident of my judgments.
8. I have sometimes doubted my ability as a lover.
9. I sometimes tell lies if I have to.
10. I never cover up my mistakes.
11. There have been occasions when I have taken advantage of someone.
12. I sometimes try to get even rather than forgive and forget.
13. I have said something bad about a friend behind his or her back.
14. When I hear people talking privately, I avoid listening.
15. I never take things that don't belong to me.
16. I don't gossip about other people's business.

## Appendix F

### Personality Disorder Severity ICD-11 (PDS-ICD-11)

Please select the one statement for each area that best describes you in general:

1. Identity
  - I often have no sense of who I am, especially when I am with other people
  - I am sometimes confused about who I am, especially when I am with other people
  - I have a stable sense of who I am
  - My sense of who I am is generally too fixed and restricted (e.g., in relation to work or to another person)
  - My sense of who I am is overly restricted and unchangeable no matter the circumstances
  
2. Self-worth
  - Most of the time I feel worthless which affects how I relate to other people
  - I often have a hard time feeling good about myself which sometimes affects how I relate to other people
  - I usually feel good about myself
  - I often feel I am better than others which affects how I relate to other people
  - I feel superior to others which affects how I relate to other people
  
3. Self-perception
  - I have no strengths
  - I have few strengths
  - I have a good sense of my strengths and weaknesses
  - I have few weaknesses or limitations
  - I have no weaknesses or limitations
  
4. Goals
  - I am rarely able to set and follow goals
  - I sometimes find it hard to set and follow goals
  - I have no problem setting and following realistic goals
  - I sometimes find it hard to change my goals even when they will be too difficult to achieve
  - I regularly find it hard to change my goals even when they will be nearly impossible to achieve
  
5. Interest in relationships
  - I have no interest in being with others and do anything to avoid them
  - I have little interest in being with others and therefore avoid them
  - I have a good balance of being by myself and being with others
  - I sometimes feel upset when not around others
  - I often feel upset when not around others

6. Perspective-taking
  - I never think about other people's thoughts and feelings
  - I often do not think about other people's thoughts and feelings
  - I can easily relate to other people's thoughts and feelings
  - I often think too much about how others think and feel
  - I always think too much into how others think and feel
  
7. Mutuality in relationships
  - People always complain that I am too selfish in relationships
  - People have sometimes complained that I am too selfish in relationships
  - I am able to establish and maintain close and mutually satisfying relationships
  - I am sometimes unable to end relationships, even when they are harmful to me
  - I am rarely able to end relationships, even when they are harmful to me
  
8. Disagreement management
  - I often get into disagreements with others that cause serious relationship problems
  - I sometimes get into disagreements with others that cause relationship problems
  - I am able to manage disagreements in relationships in a cooperative manner
  - I often avoid disagreements by giving into others, even if I will be worse off
  - I avoid disagreements and conflicts with others at any cost
  
9. Emotional control and expression
  - I often cannot control my emotions which causes serious problems with others
  - I sometimes have trouble controlling my emotions which causes some problems with others
  - I am generally able to control and express my emotions in an appropriate way
  - People sometimes complain that I don't express emotions
  - People often complain that I never express emotions at all
  
10. Behavioral control
  - I often act so rashly or impulsively that it causes serious problems
  - I sometimes act on impulse without considering the consequences, which causes problems
  - I am generally able to be spontaneous while keeping appropriate control of my actions
  - I am sometimes so controlled in my actions that I don't get the same out of life as others do
  - I am often so over-controlled in my actions that I hardly get anything out of life
  
11. Attention \*Validity check item
  - Don't select this option
  - Don't select this option
  - Don't select this option
  - Select this one
  - Don't select this option

12. Experience of reality during stress

- My experience of situations is usually accurate when feeling stressed out
- My experience of situations is somewhat distorted when feeling stressed out (e.g., expecting the worst to happen, feeling rejected when criticized by others)
- I sometimes lose touch with what is real when feeling stressed out (e.g., suspicious, feeling disconnected from reality, or things around me are like in a dream)
- I often lose touch with reality when feeling stressed out (e.g., extreme suspiciousness, seeing or hearing things that other people can't, having out-of-body experiences)

13. Harm to self

- I never harm myself
- I rarely harm myself
- I sometimes harm myself
- I often harm myself

14. Harm to others (intentional or unintentional)

- I never harm others
- I rarely harm others
- I sometimes harm others
- I often harm others

15. In thinking about your answers to the above, how much do they cause problems in important areas of your life (e.g., personal, family, social, education, work)?

- Not at all
- A little
- Moderately
- A lot

## Appendix G

### Standardized Assessment of Severity of Personality Disorder (SASPD)

This questionnaire contains a series of items related to nine aspects of a person's life. For each area please could you indicate which of the four statements best describes how things are for you in general. We are keen to find out how things generally are for you, rather than how things might have been over recent days or weeks.

For each aspect of yourself or your life, please tick ONE box that best describes how you generally are.

1. Being with others
  - I enjoy being with other people
  - I sometimes find it difficult to be with other people
  - In general, I do not like being with others
  - I do not like being with other people at all and do everything to avoid them
  
2. Trusting other people
  - I have no difficulty trusting others
  - At times I find it difficult to trust others
  - There are very few people I can trust
  - I trust no one and this stops me from doing things I need to do
  
3. Friendships
  - I have no difficulty making and keeping friends
  - I find it difficult to make and keep friends
  - I have very few friends
  - I have no friends
  
4. Temper
  - I do not lose my temper easily
  - I lose my temper more easily than others
  - I lose my temper easily and this gets me into difficult situations
  - I lose my temper easily and this has led me to harm myself or other people
  
5. Technology \*Validity check item
  - I use some form of technology almost every day
  - I use some form of technology only a few days a week
  - I use technology once a month or less
  - I never use any form of technology
  
6. Acting on impulse
  - I never or rarely act on impulse
  - I sometimes act on impulse
  - Acting on impulse gets me into trouble with others

Acting on impulse has led me to harm myself or other people

7. Worrying

In general, I am not a worrier

I sometimes get worried about things that others don't

I am generally a worrier

Constant worrying stops me from doing things I need to do

8. Being Organized

It's fine with me if things are not well organised

I dislike it when things are not well organised

Trying to make things organised interferes with most things I need to do

Trying to make things organised stops me doing everything

9. Caring about other people

I care about how other people feel

I don't pay much attention to whether what I do affects other people

I don't care whether what I do hurts other people's feelings

People say that I am "cold blooded" or callous

10. Self-reliance

I generally complete the things I need to do on my own

When tackling things, I like to get help from other people

When tackling things, I generally need help from other people

I can't do anything by myself

## **Vita**

Rae Elizabeth Lutz was born May 28, 1994, in Grand Rapids, Michigan. They graduated from Zeeland West High School, Zeeland, Michigan in 2012. They received their Bachelor of Arts in Psychology from Grand Valley State University, Allendale, Michigan in 2016. They completed baccalaureate and post-baccalaureate research work in social support and maladaptive personality under the supervision of Dr. Brian Lakey. After obtaining a Bachelor's degree, they spent four years engaged in clinical work for an inpatient psychiatric hospital located in the greater Grand Rapids area.