Personality Inventory for the DSM-5 (Brief Form) Predictors of Sexual Addiction

Victoria Pocknell & Alan R. King

To cite this article: Victoria Pocknell & Alan R. King (2019) Personality Inventory for the DSM-5 (Brief Form) Predictors of Sexual Addiction, Sexual Addiction & Compulsivity, 26:3-4, 315-332, DOI: 10.1080/10720162.2019.1645059

To link to this article: https://doi.org/10.1080/10720162.2019.1645059

Published online: 05 Aug 2019.

Submit your article to this journal

Article views: 30

View related articles

View Crossmark data
Personality Inventory for the DSM-5 (Brief Form)
Predictors of Sexual Addiction

Victoria Pocknell and Alan R. King
University of North Dakota, Grand Forks, North Dakota, USA

ABSTRACT
Sexual addiction risk may be elevated by personality maladjustment. The Personality Inventory for the DSM-5 (PID) was identified in the DSM-5 as an exemplar for future personality research. The brief form (DSM-5-BF) canvases the same domains, with concerns raised that it may underestimate levels of maladjustment. PID-5-BF associations were found in this national sample (N = 428) with all five subscales of the Sexual Addiction Screening Test (preoccupation with sex, loss of control, relationship disturbance, affective disturbance, and Internet addiction). PID-5-BF personality maladjustment in this national survey sample appeared to increase the relative risks of elevated sexual addiction symptomatology.

Introduction
The DSM-5 (American Psychiatric Association, 2013) provided impetus for accelerated research into links between “big five” personality traits and clinically relevant maladjustment indicators as a prelude to adoption of a dimensional diagnostic system. The Personality Inventory for the DSM-5 (PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2013; Quilty, Ayearst, Chmielewski, Pollock, & Bagby, 2013) was cited as an exemplar as a dimensional measurement strategy in the conceptualization and assessment of personality disturbance. While predisposed by heritance (Plomin, DeFries, Knopik, & Neiderhiser, 2016), these generalized trait penchants (antagonism, disinhibition, negative affect, detachment, and psychoticism) appear to be differentiated during development into more specialized secondary and tertiary traits with distinctive situational and ideational triggers. Maladaptive sexual interests and practices may constitute a clinically relevant outgrowth of generalized “big five” trait maladjustment.

Significant relationships have been found between personality traits and addictive behavior, including risky sexual and hypersexual behavior (Pinto, Carvalho, & Nobre, 2013). One early speculation (Cloninger, Bayon, &
Svrakic, 1998) was that the acquisition and maintenance of sexually addictive behavior was related to personality-modulated harm avoidance, novelty seeking, reward dependency, persistence strategies, and social interaction dynamics. Personality dysfunctions were thought to magnify inner conflicts and distort the implications of compulsive coping through mechanisms such as denial, repression, dissociation, or other auxiliary defenses. Inhibitory and decision-making processes may be compromised among personality disordered individuals, leading to heightened sensation seeking and risk taking (Pinkerton & Abramson, 1995). The interaction of personality and sexual addiction may be highlighted in the elevated risk for comorbid personality disorders amongst those seeking treatment for hypersexuality (Carpenter, Reid, Garos, & Najavits, 2013). Cluster B personality disorder traits, especially antisocial, borderline, histrionic, and dependent traits, are common among those with compulsive sexual behavior as measured by the Minnesota Multiphasic Personality Inventory (MMPI-2; Hathaway et al., 1989) and Restructured Form and Structured Interview for DSM-III-R (Black, Kehrberg, Flumerfelt, & Schlosser, 1997; Carnes, 1991; Kastner & Sellbom, 2012).

A popular and most commonly used approach is to identify personality dimensions underlying sexual addiction using the big-five model operationalized as the Big Five Inventory (BFI) or Revised NEO Personality Inventory (NEO PI-R; Elliot & Thrash, 2002; Larsen & Augustine, 2008). Researchers posit that high neuroticism and extroversion and low agreeableness and conscientiousness are commonly associated with increased sexual activity (Reid, Carpenter, Spackman, & Willes, 2008; Walton, Cantor, & Lykins, 2017; Zilberman, Yadid, Efrati, Neumark, & Rassovsky, 2018). Neuroticism is the most predictive big-five personality domain, most likely due to the overlap it has with the impulsivity, anxiety, and dysphoric mood associated with the proposed sexual addiction criteria (Walton et al., 2017). Eysenck (1976) found that extroversion was associated with younger sexual experiences, risky sexual behavior, less stable intimate relationships, and a higher number of sexual partners. Later research suggests this may be due to a greater tendency to focus on approach goals and higher sensitivity to reward cues (Cooper, Talley, Sheldon, Levitt, & Barber, 2008; Reid, Garos, & Carpenter, 2011; Smillie, 2008). Conscientiousness and agreeableness were associated with lower sexual satisfaction, perceived sexual process, and sexual inhibition (Heaven, Fitzpatrick, Craig, Kelly, & Sebar, 2000; Hoyle, Fejfar, & Miller, 2000; Miller et al., 2004; Nettle, 2005). Openness to experience has not been found to be significantly related to increased sexual activity.

Personality research in the area of sexual addictions could be of value in a number of ways. Personality traits have been associated with
hypersexuality as a predisposition for many different psychosocial concerns (Walton et al., 2017). Personality differences may inform the treatment process for sexual addiction. For example, neurotics and clients low in agreeableness have been found to be poorly motivated, challenging to engage, and less likely to acknowledge their sexual behavior as a problem (Cantor et al., 2013; Kaplan & Krueger, 2010; Reid, 2007). While PID-5’s domain-level structure closely resembles the Five Factor Model (Griffin & Samuel, 2014), Fowler et al. (2018) found that the PID-5 was more accurate than the Big Five Inventory at screening for maladaptive personality traits. Unfortunately, there is little to no research utilizing the PID-5 as the primary tool to investigate sexual addiction. The DSM-6 personality disorders task force could benefit from evidence extending the concurrent validity of the PID-5 trait domains to a clinical problem domain as specialized as sexual addiction.

Sexual addiction

The concept of sexual addiction was first introduced by Orford (1978) and subsequently popularized by Carnes’ systematic research on the disorder (Carnes, 1983, 1991, 2000, 2001, 2005; Carnes, Green, & Carnes, 2010; Carnes & Schneider, 2000). Clinicians have accepted the validity of the diagnosis in increasing numbers (Kafka, 2010; Krueger & Kaplan, 2001; Levine, 2010; Womack, Hook, Ramos, Davis, & Penberthy, 2013). Compulsive Sexual Behavior Disorder has now been recognized in the ICD-11 (International Classification of Diseases), with Non-Substance-Related Addictive Disorders under further consideration in the DSM-5. Carnes (2005) estimated that 6% of the general population meets criteria for sexual addiction, and men had more than twice as many symptoms as the women in one college sample (Cashwell, Giordano, King, Lankford, & Henson, 2017). The prevalence rate may be higher among (European) Caucasians within the upper socioeconomic strata (Kraus, Voon, & Potenza, 2016). Sexual compulsivity tends to emerge relatively early in life with a broader range and higher frequency of acts (Karila et al., 2014). Sequelae of compulsive sexual behavior include sexually transmitted diseases, unintended pregnancies, legal charges, financial and relationship losses, social ostracization, and other adverse consequences (Coleman, 1992; Coleman et al., 2010; Schnarrs et al., 2010; Storholm, Fisher, Napper, Reynolds, & Halkitis, 2011). Effortful long-term strategies are typically required to manage the condition and circumvent the moral and social inhibitors of its free expression (Levine & Troiden, 1988).

Sexual addiction behaviors include masturbation, pornography consumption, and intimate acts with others that elicit clinically significant emotional distress and/or impairment in psychosocial functioning. The diagnosis is not
restricted to acts that are illegal, involve nonconsenting partners, or paraphilic ideational content. Sexual compulsivity is often expressed in normative acts that are distinguished by their frequency and/or intensity, prompting feelings of distress and/or loss of control despite substantial hardships (Goodman, 1993). Sex addicts appear to rely on these ritualistic acts to temporarily relieve negative emotional states such as low self-esteem, dysphoria, anxiety, emptiness, and/or anger (Bancroft, 2009; Bancroft, Janssen, Strong, Carnes et al., 2003; Bancroft, Janssen, Strong, & Vukadinovic, 2003; Goodman, 1993; Guigliamo, 2006; Reid, 2010; Schwartz, 2008). Sexually addictive behavior typically elicits both pleasure (positive reward) and provides escape (negative reinforcement) from internal discomfort. This behavioral pattern interestingly produces symptoms of tolerance and/or withdrawal such as insomnia, nervousness, sweating, and fatigue as might be seen in physical addiction (Carnes & Schneider, 2000; Coleman-Kennedy & Pendley, 2002; Nakken, 2009). In fact, neurological studies have suggested that sexually addictive behavior alters the reward circuitry of the brain in a manner similar to that of dopaminergic drugs that trigger limbic and/or paralimbic activation (Blum et al., 2012; Hamann, Herman, Nolan, & Wallen, 2004). Perceptions of reward size, contingencies, and contiguities may all be affected and compromise self-control competencies over time (Coleman, 1990; Logue, 1988; Mischel & Baker, 1975; Sharpe & Tarrier, 1993; Witkiewitz & Marlatt, 2004).

Study hypotheses

Five hypotheses were examined involving anticipated associations between maladaptive personality attributes and sexual addiction symptomatology: (1) Personality Inventory for the DSM-5–Brief Form (PID-5-BF) domain attributes will all be significantly associated with core and subscale Sexual Addiction Screening Test–Revised (SAST-R) scores; (2) Selected PID-5-BF domains will account for unshared variance in core and subscale SAST-R scores; (3) PID-5-BF dimensional scores will significantly differentiate addicted from normative respondents as defined by SAST-R cutoff scores; (4) Relative risks of sexual addiction will be raised by PID-5-BF domain score elevations; and (5) Gender differences will be found in relationships between PID-5-BF and SAST-R symptomatology.

Method

Participants and procedure

Pocknell (2017) sampled the self-reported sexual fantasies of national survey respondents using Amazon’s Mechanical Turk (MTurk). Respondents were told that the purpose of the survey was to explore associations...
between early sexual experiences and present sexual interests and concerns. A central purpose of this analysis was to determine if the PID-5-BF domain scores could identify respondents who would be classified at high risk for sexual addiction on the basis of the definitional thresholds established in SAST-R validation studies (Carnes et al., 2010; Hook, Hook, Davis, Worthington, & Penberthy, 2010; Nelson & Oehlert, 2008; Hanson & Harris, 2000). A subset of respondents from this earlier sample who exceeded the specified criterion for “sexual addiction” \((n=214)\) were selected for further analysis in this study along with a randomly selected comparison cohort \((n=214)\) of non-addicted counterparts. This final sample \((N=428)\) included an equal number of sexually addicted and non-addicted survey respondents.

Survey respondents in this study were all at least 18 years of age and from the United States. MTurk workers have been found to attend to instructions, respond reliably, and exhibit levels of motivation that are comparable to participants in face-to-face survey sampling (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011; Gosling, Vazire, Srivastava, & John, 2004). Repeat sampling is prevented through account-specific identification and verification from payment information. MTurk has been characterized as a valid and representative crowdsourcing research platform (Buhrmester et al., 2011; Paolacci, Chandler, & Ipeirotis, 2010). Validity items were used in the protocol to exclude inattentive respondents.

**Materials**

**Personality Inventory for DSM-5–Brief Form**

The PID-5 is comprised of 220 four-point items that canvas five broad domains and 25 facet trait dimensions. Empirical analyses of the PID-5 appear to have accelerated after the publication of the DSM-5 in 2013. Links between PID-5 trait scores and sexual addiction have not been established to date, and the length of the PID-5 restricts its application in many research protocols. The 25-item short form (PID-5-BF; Krueger et al., 2013) has been found to provide domain scores that appear comparable to the original version (Bach, Maples-Keller, Bo, & Simonsen, 2016). The efficiency of the PID-5-BF makes it optimal for incorporation into protocols that explore five-factor trait involvement in previously unexplored forms of psychological maladjustment. The PID-5-BF measures the five trait domains of the original inventory (antagonism, disinhibition, negative affect, detachment, and psychoticism). Items are scaled using the same four-point metric which generates scores that range from 0–15. Scores are left uncalculated if more than 25% of the contributing items were left blank, and missing scores were prorated as specified by the test developers.
PID-5-BF psychometric properties have been established in various sources (Anderson, Sellbom, & Salekin, 2016; Debast, Rossi, & van Alphen, 2017; Fossati, Somma, Borroni, Markon, & Krueger, 2015; Góngora & Solano, 2017; Hopwood, Schade, Krueger, Wright, & Markon, 2013).

Watters (2018) recognized the growing popularity of the PID-5-BF but warned in her analysis that these domain scores may underestimate symptomatology, relative to the PID-5, in clinical applications. It seems prudent for future PID-5-BF researchers to rely on relatively high “elevation” thresholds when intending to trigger diagnostic concern in clinical or subclinical applications. This study tested a threshold of roughly +1.7 standard deviations above the mean as a cause for concern regarding sexual addiction. This standard translated into an average raw score of 10 (or higher) in the PID-5-BF distributions of a recent national MTurk sample (Matson, Russell, & King, 2018). Reliance on a raw, as opposed to z-score, threshold, has appeal in assuring uniformity in future research or applied uses of the PID-5-BF.

**Sexual Addiction Screening Test–Revised**
The SAST-R (Carnes et al., 2010) represents the most widely used self-report inventory for identifying compulsive sexual behavior. The SAST-R is a 45-item, dichotomous-scaled self-report inventory developed to measure various aspects of maladaptive sexual behavior. The SAST-R provides a core score of 20 items with four subscale dimensions including preoccupation with sex, loss of control, relationship disturbance, affective disturbance, and Internet addiction. While the prevalence of sexual addiction is higher among men than women (Carnes, 1991; Cooper, Delmonico, Griffin-Shelley, & Mathy, 2004), the SAST-R developers emphasized sexual addiction similarities in manifestations and consequences across demographic subgroups. Interpretation thresholds have not emerged to differentiate SAST-R elevation risks. A receiver operating characteristic (ROC) analysis established optimal raw score thresholds (Core = > 6; = > 2 for subscale dimensions) for differentiating between clinical (sexually addicted inpatients) and normative (non-addicted) group cohorts in the standardization analyses (86.0% and 83.8% accuracy for the men and women, respectively). Additional evidence of SAST-R concurrent validity has been provided in multiple sources (Hook et al., 2010; Nelson & Oehlert, 2008; Hanson & Harris, 2000).

**Analytic strategy**
Analyses were conducted to establish the extent to which dimensional and high-risk SAST-R classification scores could be predicted by the PID-5-BF personality domains. Dimensional score analyses served to advance current
understanding of nexuses between maladaptive personality attributes and sexual addiction symptomatology. Analyses of covariance and nonparametric relative risk analyses were used to estimate the extent to which PID-5-BF domain scores could predict clinically relevant elevations in the SAST-R scores. SAST-R core and subscale diagnostic thresholds for sexual addiction derived from previous ROC work (Carnes et al., 2010) were relied upon in these nonparametric analyses. Sexual addiction was defined by SAST-R Core scores in excess of five. This study relied on a PID-5-BF operational score threshold of +1.7 standard deviations above the mean to define heightened risk from personality pathology.

**Results**

**Descriptive statistics**

This sample (N=428) varied in gender (52.5% men, 47.5% women), age (M=36.30, SD=11.38, range=18–84), and ethnicity (Caucasian, n=310, 72.4%; African American, n=31, 7.2%; Asian, n=22, 5.1%; Hispanic, n=22, 5.1%; American Indian/Alaskan Native, n=8, 1.9%; and multiracial, n=9, 2.1%). SAST-R and PID-5-BF score differences between the sexually addicted and nonaddicted respondents are presented in Table 1. An SAST-R core scale score of six or higher was used to identify respondents who were likely to meet criteria for sexual addiction. A PID-5-BF raw score of 10 or higher was used to define domain elevations.

**Gender differences**

Men scored significantly higher than the women in their SAST-R core (p = .002, d = .31), preoccupation with sex (p < .001, d = .50), loss of control (p < .001, d = .49), and Internet addiction (p < .001, d = .71). Men also

---

**Table 1. SAST-R and PID-5-BF Differences Between the Addicted and Nonaddictive Cohorts.**

<table>
<thead>
<tr>
<th>Measures</th>
<th>Sexually Addicted Respondents</th>
<th>Normative Respondents</th>
<th>Group Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>Range</td>
</tr>
<tr>
<td>SAST-R Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAST-R Core</td>
<td>.83</td>
<td>8.80</td>
<td>2.67</td>
</tr>
<tr>
<td>Preoccupation with Sex</td>
<td>.60</td>
<td>2.14</td>
<td>1.08</td>
</tr>
<tr>
<td>Loss of Control</td>
<td>.70</td>
<td>1.93</td>
<td>1.22</td>
</tr>
<tr>
<td>Relationship Disturbance</td>
<td>.64</td>
<td>1.24</td>
<td>1.15</td>
</tr>
<tr>
<td>Affective Disturbance</td>
<td>.63</td>
<td>2.74</td>
<td>1.25</td>
</tr>
<tr>
<td>Internet Addiction</td>
<td>.70</td>
<td>2.23</td>
<td>1.73</td>
</tr>
<tr>
<td>PID-5-BF Scores</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative Affect</td>
<td>.85</td>
<td>6.89</td>
<td>3.74</td>
</tr>
<tr>
<td>Detachment</td>
<td>.80</td>
<td>5.64</td>
<td>3.43</td>
</tr>
<tr>
<td>Antagonism</td>
<td>.78</td>
<td>4.06</td>
<td>3.26</td>
</tr>
<tr>
<td>Disinhibition</td>
<td>.86</td>
<td>5.17</td>
<td>3.62</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>.83</td>
<td>5.07</td>
<td>3.55</td>
</tr>
</tbody>
</table>

*Note. The sexually addicted and normative cohorts were equal in cell size (n=214).*
scored significantly higher than women on PID-5-BF negative affect ($p = .001$, $d = .33$), and antagonism ($p = .005$, $d = .28$) scales. Gender differences were not found for the remaining SAST-R (relationship and affective disturbances) and PID-5-BF (detachment, disinhibition, and psychoticism) subscales. Men were disproportionately represented in the addicted versus normative cohorts, $\chi^2 = 6.85$, $p = .009$.

### Correlation analyses

Table 2 presents SAST-R bivariate correlates with the PID-5-BF domain scores. The shaded coefficients differ significantly in strength between the men and women.

### Regression analyses

Table 3 presents the results of linear regression predictions of scores for the SAST-R core and its constituent symptom subscales. These six regression models were all significant: SAST-R core, $F (7, 394) = 13.81$, $p < .001$, adjusted $R^2 = 18.3\%$, preoccupation with sex, $F (7, 394) = 13.19$, $p < .001$, adjusted $R^2 = 17.5\%$, loss of control, $F (7, 394) = 10.30$, $p < .001$, adjusted $R^2 = 14.0\%$, relationship concerns, $F (7, 394) = 5.68$, $p < .001$, adjusted $R^2 = 7.6\%$, affective disturbance, $F (7, 394) = 11.62$, $p < .001$, adjusted $R^2 = 15.6\%$, and Internet addiction, $F (7, 394) = 14.67$, $p < .001$, adjusted $R^2 = 19.3\%$.

### ROC analyses

ROC curve analyses found that each of the five domains were able to significantly differentiate the sexually addicted from nonaddicted respondents for both the women (disinhibition, $AUC = .740$, $SE = .035$, $p < .001$;
psychopticism, $AUC = .709, SE = .036, p < .001$; antagonism, $AUC = .640, SE = .039, p = .001$; detachment, $AUC = .691, SE = .037, p < .001$; negative affect, $AUC = .684, SE = .038, p < .001$) and the men (disinhibition, $AUC = .704, SE = .039, p < .001$; psychoticism, $AUC = .687, SE = .040, p < .001$; antagonism, $AUC = .684, SE = .040, p < .001$; detachment, $AUC = .645, SE = .042, p = .001$; negative affect, $AUC = .642, SE = .041, p = .001$) in the sample.

### Analyses of covariance

A series of five independent $2 \times 2$ (gender; PID-5-BF Risk Group) ANCOVAs were conducted using the SAST-R subscale dimensions as the dependent measure and respondent age as the covariate in each analysis (see Table 4). Gender by group interactions were observed for four
disinhibition (core, preoccupation, relationship disturbance, and Internet addiction) and four detachment (core, preoccupation, loss of control, & Internet addiction) indicators. Women showed relatively stronger connections than men between the respective PID-5-BF and SAST-R indicators each of these interactions.

Relative risk analyses

Table 5 findings provide estimates of the relative increase in risk of being assigned to the sexual addiction cell on the basis of an elevated (raw score > 9, ~ +1.7 SD) rather than normative (raw score < 10) PID-5-BF score on the respective dimension. The high-risk sexual addiction thresholds for the SAST-R were derived from prior ROC analyses (Carnes et al., 2010) that relied upon a clinical diagnostic group. Significant relative risk
elevations were found for all but two of the predictor-criterion pairings (Detachment–Preoccupation and Psychoticism–Preoccupation).

Gender by PID-5-BF group interactions (see Table 4) prompted some additional gender-specific relative risk analyses for those respective pairings. In all of these cases, the relative risk of the PID-5-BF elevation was heightened for the women. Extreme disinhibition raised clinical concerns regarding the core, $RR = 2.21$, 95% CI [1.73, 2.81], $p < .0001$, preoccupation, $RR = 1.99$, 95% CI [1.27, 3.13], $p = .003$, relationship disturbance, $RR = 3.31$, 95% CI [1.91, 5.73], $p < .0001$, and Internet addiction, $RR = 2.94$, 95% CI [1.90, 4.56], $p < .0001$, scales for the women in the sample. Men showed elevated relative risk of clinical concerns regarding only core scores, $RR = 2.21$, 95% CI [1.73, 2.81], $p < .0001$. Extreme detachment raised clinical concerns regarding the core, $RR = 1.66$, 95% CI [1.17, 2.35], $p = .004$, preoccupation, $RR = 1.54$, 95% CI [0.92, 2.59], $p = .010$, loss of control, $RR = 3.08$, 95% CI [1.82, 5.21], $p < .0001$, and Internet addiction, $RR = 1.68$, 95% CI [1.68, 4.27], $p < .0001$, scales for the women in the sample. Men showed elevated relative risk of clinical concerns regarding only loss of control scores, $RR = 2.72$, 95% CI [1.93, 3.84], $p < .0001$.

### Discussion

The PID-5 and other dimensional trait measures will be relied upon increasingly in the future by both researchers and practitioners given the

<table>
<thead>
<tr>
<th>Sexual Addiction Dimension</th>
<th>Negative Affect</th>
<th>Detachment</th>
<th>Antagonism</th>
<th>Disinhibition</th>
<th>Psychoticism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At Risk</td>
<td>Low Risk</td>
<td>At Risk</td>
<td>Low Risk</td>
<td>At Risk</td>
</tr>
<tr>
<td>Core Addiction</td>
<td>59</td>
<td>151</td>
<td>27</td>
<td>81</td>
<td>15</td>
</tr>
<tr>
<td>Normative Group</td>
<td>22</td>
<td>188</td>
<td>15</td>
<td>292</td>
<td>4</td>
</tr>
<tr>
<td>Relative Risk (RR)</td>
<td>1.63***</td>
<td>2.96***</td>
<td>1.60***</td>
<td>1.72***</td>
<td>1.65***</td>
</tr>
<tr>
<td>Sex Preoccupation</td>
<td>50</td>
<td>133</td>
<td>20</td>
<td>163</td>
<td>13</td>
</tr>
<tr>
<td>Normative Group</td>
<td>31</td>
<td>206</td>
<td>22</td>
<td>210</td>
<td>6</td>
</tr>
<tr>
<td>Relative Risk (RR)</td>
<td>1.57***</td>
<td>1.09</td>
<td>1.61**</td>
<td>1.40*</td>
<td>1.33</td>
</tr>
<tr>
<td>Loss of Control</td>
<td>39</td>
<td>97</td>
<td>20</td>
<td>115</td>
<td>11</td>
</tr>
<tr>
<td>Normative Group</td>
<td>42</td>
<td>242</td>
<td>22</td>
<td>258</td>
<td>8</td>
</tr>
<tr>
<td>Relative Risk (RR)</td>
<td>1.68***</td>
<td>1.54*</td>
<td>1.87**</td>
<td>1.98***</td>
<td>1.65**</td>
</tr>
<tr>
<td>Relationship Issues</td>
<td>25</td>
<td>59</td>
<td>12</td>
<td>69</td>
<td>9</td>
</tr>
<tr>
<td>Normative Group</td>
<td>56</td>
<td>280</td>
<td>30</td>
<td>304</td>
<td>10</td>
</tr>
<tr>
<td>Relative Risk (RR)</td>
<td>1.77**</td>
<td>1.54</td>
<td>2.58***</td>
<td>2.00**</td>
<td>2.11**</td>
</tr>
<tr>
<td>Affect Disturbance</td>
<td>59</td>
<td>153</td>
<td>30</td>
<td>181</td>
<td>12</td>
</tr>
<tr>
<td>Normative Group</td>
<td>22</td>
<td>186</td>
<td>12</td>
<td>192</td>
<td>7</td>
</tr>
<tr>
<td>Relative Risk (RR)</td>
<td>1.61***</td>
<td>1.47***</td>
<td>1.26</td>
<td>1.47**</td>
<td>1.04</td>
</tr>
<tr>
<td>Internet Addiction</td>
<td>42</td>
<td>128</td>
<td>25</td>
<td>142</td>
<td>12</td>
</tr>
<tr>
<td>Normative Group</td>
<td>39</td>
<td>211</td>
<td>17</td>
<td>231</td>
<td>7</td>
</tr>
<tr>
<td>Relative Risk (RR)</td>
<td>1.37*</td>
<td>1.56**</td>
<td>1.61*</td>
<td>1.53**</td>
<td>1.45*</td>
</tr>
</tbody>
</table>

Note. High risk predictor groups defined as follows: PID-5-BF (raw domain score $\geq 10$). Sexual Addiction groups defined as follows: SAST-R Core ($\geq 6$); SAST-R subscale ($\geq 2$). $RR$ estimates quantify the increased risk of sexual addiction accompanying an elevated (raw score $> 9$, $\sim 1.7$ SD) versus normative (raw score $< 10$) PID-5-BF score on the respective dimension.
anticipated paradigm shift in *DSM-5* away from categorical conceptualizations of personality disturbance. Normative data for both the PID-5 and PID-5-BF are important for both theoretical (research) and practical (applied) reasons. Theoretical models regarding the role of personality traits in later maladjustment rely on measures that can be administered widely and interpreted consistently in the field. Personality inventories are also used extensively for applied reasons to assess attributes that may reflect present or future behavior in work, school, or clinical settings. Trait score elevations do not constitute prima facie concerns but instead alert practitioners to potential risks in functioning that warrants closer attention. Significant associations between trait scores and indicators of maladaptive functioning provide the necessary evidentiary base for their continued usage in both theoretical and applied settings. These results also supplement the paucity of available empirical data establishing nexuses between personality traits and this highly specialized form of maladjustment.

Support was found for all five hypotheses in this study. Bivariate correlation coefficients between the PID-5-BF and SAST-R were statistically significant in 100% (30/30) and 76.7% (23/30) of the associations for the women and men respectively (see Table 2). All five PID-5-BF domains were associated with all five facets of sexual addiction measured by the SAST-R (Hypothesis 1). The trait domains of negative affect, antagonism, and disinhibition also accounted for unshared variance in SAST-R subscale scores (Hypothesis 2). Both dimensional and high-risk categorical PID-5-BF scores differentiated between the sexually addicted and normative cohorts (Hypothesis 3). The relative risks of PID-5-BF elevations to sexual addiction were established (Hypothesis 4). Significant gender differences also were established. The diagnostic risks examined in this study were often magnified for women who showed roughly triple the probabilities of internet addiction and relationship disturbances secondary to elevated disinhibition and negative affect were most closely linked to sexual addiction among the women. Disinhibition posed a unitary concern of relative importance among the men (Hypothesis 5). While the PID-5 domain and facet traits continue to accrue an evidentiary base supporting their concurrent validity, the merits of the PID-5-BF as a screening inventory remain to be determined. It seems unlikely the PID-5 or PID-5-BF would assume a central role in the diagnosis of sexual addiction, but it is worth note that this study did generate evidence that elevated PID-5-BF domain scores (raw score > 9, ~ +1.7 SD) do constitute a risk of sexual addiction. The clinical relevance of these PID-5-BF risk estimates was enhanced by the ROC work of Carnes and colleagues (Carnes et al., 2010) in their establishment of core and subscale cutoffs for accurately predicting diagnosable sexual addiction problems. While PID-5-BF elevations posed risks that were

---

**Table 2**

<table>
<thead>
<tr>
<th>PID-5-BF Domain</th>
<th>SAST-R Facet</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Affect</td>
<td>SAST-R Facet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antagonism</td>
<td>SAST-R Facet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disinhibition</td>
<td>SAST-R Facet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
moderate in size, they were pervasive in scope and often highly significant. The high-risk group main effects were significant in 28 of 30 contrasts (see Table 3).

**Design limitations, generality, and future directions**

The “sexually addicted” cohort in this analysis would most appropriately be described as a “subclinical” group given the absence of a diagnostic interview or formal DSM-5 criteria to guide the evaluative process. The SAST-R items are also dichotomous, which limits information regarding the severity of particular symptomatic behaviors. Studies such as this will expand the evidentiary base for future DSM task forces during deliberations regarding the possible inclusion of behavioral addictions to the diagnostic manual. Data analyzed in this cross-sectional study are all self-report and retrospective in nature without verification of the accuracy of respondent recollections. The directionality of these correlation findings cannot be established.

These MTurk findings may not generalize well to clinical samples, the college population, ethnic cohorts, or other subgroups. Future studies should focus on the role of disinhibition and negative affect as developmental sources of sexual addiction. These theoretical factors would optimally be included in more comprehensive etiologic models with a focus on differentiating diagnosable from normative forms of sexual behavior. The PID-5 and PID-5-BF literatures have attended disproportionately to generalized indicators of psychological distress in their concurrent validation efforts. Future researchers should be encouraged to canvas broader areas of maladjustment, including disorders that are as specialized as sexual addiction.

**Conclusions**

The PID-5 continues to expand its usage in both research and applied areas of psychology. The length of the PID-5 does limit its usage, and the PID-5-BF offers a suitable alternative for screening the core trait domains referred to in five-factor theory. Early research on the comparability of the two inventories has been promising, but the evidentiary base for the concurrent validity of the brief forms remains incompletely established. This study provided evidence of significant and pervasive associations between the five domains of the PID-5-BF and clinically significant indicators of sexual addiction. These results support the concurrent validity of the brief form of the PID-5.

**Disclosure statement**

This was an unfunded project with no authorship conflicts of interest.
**Ethics assurance**

This project was approved by our university Institutional Review Board with informed consent required for all respondents.

**References**


