



## Psychometric properties of a brief inventory for the screening of personality disorders: The SCATI

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The purpose of the present study was to report on the psychometric properties of a revised version of a brief inventory designed to screen and assess personality disorders. The short form of the Coolidge Axis II Inventory (SCATI) is a 70-item, self-report, form of the 250-item Coolidge Axis II Inventory (CATI). On a community sample of 588 adults (range = 16–88 years), the median internal scale reliability for the 14 personality disorder scales was .66, and the median test–retest reliability (1 week) was .83. Principal components analysis (PCA) revealed a four-component structure, essentially similar to previous PCA studies of the SCATI and CATI. Good convergent validity was obtained between a five-factor model of psychopathology and the 14 SCATI personality disorder scales. Gender differences were obtained on some scales, although the effect sizes were generally small. These preliminary psychometric properties establish that the SCATI has sufficient reliability and validity to warrant further research, particularly in clinical samples.

Personality disorders are among the most debilitating yet poorly understood forms of mental illness (e.g., Millon, Grossman, Millon, Meagher, & Ramnath, 2004; Segal, Coolidge, & Rosowsky, 2006), yet their assessment is critically important for clinical case formulation and treatment planning, and critically important to prognoses of other comorbid disorders (e.g., Coolidge & Segal, 1998). The 250-item, self-report Coolidge Axis II Inventory (CATI) was designed to measure personality disorders strictly according to the specific criteria in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR)* (American Psychiatric Association, 2000). The CATI also measures several Axis I syndromes and neuropsychological dysfunction (e.g., Coolidge, 2005; Coolidge & Merwin, 1992). The purpose of the present study is to report on the psychometric properties of a revised, short form of the CATI (SCATI) with the specific purpose of screening for and assessing only personality disorders, 10 from *DSM-IV-TR*, 2 from Appendix B of the *DSM-IV-TR* (depressive and passive-aggressive), and 2 from *DSM-III-R* (American Psychiatric Association, 1987; sadistic and self-defeating) and to

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make that assessment brief yet effective for clinical practice or research. To achieve this goal of a short form, only the first five criteria in the *DSM* for each disorder were chosen for representation because *DSM-IV-TR* notes that the personality disorder criteria appear in the order of their diagnostic importance, when available. Therefore, a brief personality disorder screening scale based on the first five criteria should theoretically yield a valid assessment. Additionally, screening for personality disorders is critical in a wide variety of clinical settings because personality disorders are known to negatively impact treatment outcomes, and they profoundly influence the formation of therapeutic alliances (e.g., Millon *et al.*, 2004; Segal *et al.*, 2006).

The initial draft of the 70-item SCATI was used in a study by Watson and Sinha (2007) with 840 college students (561 females, 267 males; mean age = 20.3 years, range = 18–51 years), and it yielded a median internal scale reliability (Cronbach's alpha) for the 14 scales of  $\alpha = .61$  with a range of  $\alpha = .46$  (narcissistic) to  $\alpha = .73$  (avoidant). A principal components analysis (PCA) with varimax rotation and a confirmatory factor analysis found a three-component structure similar to that found in the original CATI (Watson & Sinha, 1996). The three-component structure found by Watson and Sinha (1996, 2007) for both the original CATI and the SCATI consisted of (1) avoidant behaviour, general maladjustment, and anxious features, (2) antisocial/sadistic with paranoid and suspicious themes, and (3) a pathological continuum of introversion-extraversion (schizoid to histrionic personality disorders). In their investigation of gender effects on the SCATI, they found 8 of 14 personality disorder scales had significant gender differences. Men were significantly higher (in order of their relative effect size) on the Sadistic, Antisocial, Schizoid, Passive-Aggressive, Narcissistic, Schizotypal, and Self-Defeating personality disorder scales. Women were significantly higher on the Dependent personality disorder scale. Preliminarily, these results indicate that the SCATI is a psychometrically sound instrument that certainly warrants future investigation.

The purpose of the current study was to explore further the psychometric properties of a *revised* version of the SCATI used in Watson and Sinha's (2007) study. Based on their initial results, the SCATI was revised in two primary ways. First, in the initial SCATI, 12 personality disorder scales had 5 items, 1 had 4 items, and 1 had 6 items (for the purposes of maximizing alpha). In the revised version, all 14 scales had 5 items. Second, 2 of the 70 items had their wording revised based on poorer individual item loadings on their overall scales. With this revised SCATI version, we then attempted a 'replication' of the findings of Watson and Sinha, although they used the earlier version of SCATI. In other words, our attempt was not an 'exact replication', as we used the newly revised version of the SCATI, and they used an earlier SCATI version. We also included some additional construct validity analyses that they did not include. We also wanted to determine whether a PCA of the present SCATI would match the prior PCA results of the CATI (Coolidge & Merwin, 1992; Watson & Sinha, 1996) and SCATI (Watson & Sinha, 2007) as basic structure similarities would suggest a brief form that has some essential characteristics of the full CATI in the assessment of personality disorders. It was hypothesized that this revised version of the SCATI would yield better reliabilities than the initial version used in the Watson and Sinha study, and it was also hypothesized that there would be sufficient evidence for convergent validity between the 14 SCATI personality disorder scales and a new five-factor measure of psychopathology (five-dimensional personality test, 5DPT; van Kampen, 2006), which has been recently empirically shown to have heuristic value in the explication of *DSM-IV-TR* personality disorders (Coolidge, Segal, Cahill, & Archuleta, 2008).

## Method

### Participants and procedure

The study was approved by the university's Institutional Review Board, and informed consent or parental informed consent was obtained from all participants. The sample consisted primarily of friends, relatives, co-workers, and acquaintances of college students who received extra credit for procuring participants. The mean age of the sample ( $N = 588$ ) was 33.9 years ( $SD = 14.9$  years; range = 16–88 years). There were 321 females (54.6%), 180 males (30.6%), and 87 who did not indicate their sex (14.8%). Ethnic background of the participants was 66.0% White, 4.4% Black, 5.8% Hispanic, 0.7% American Indian, 1.9% Asian, and 21.3% of mixed or unknown ethnicity. Participants completed anonymously all assessment measures in a single session either at the university or at their homes (except for the 74 participants chosen for the test-retest study who completed the SCATI at the university 1 week apart). All participants received a debriefing statement after completion of the study.

### Measures

#### Short Coolidge Axis II Inventory

The version of the SCATI used in the present study is a revised version of the SCATI used initially in a study by Watson and Sinha (2007). The present SCATI is a 70-item, self-report measure, with each item answered on a four-point Likert-type scale ranging from 1 (*strongly false*) to 4 (*strongly true*). The SCATI assesses 14 personality disorders (12 from *DSM-IV-TR* and 2 from *DSM-III-R*). Each of the 14 SCATI personality disorder scales now consist of five items based on the first five personality disorder criteria that are listed in the current *DSM-IV-TR* with two scale exceptions. Initial pilot studies indicated that the first five items of the original SCATI did yield the highest internal scale reliability with two notable exceptions: the Obsessive-Compulsive and the Histrionic scales. Therefore, for these two scales the SCATI was revised to assess the first four criteria from the *DSM* and the sixth criterion. The present form of the SCATI also differs from Watson and Sinha's version in that two SCATI items were revised for greater clarity of wording, based on the initial reliabilities in the pilot studies. For those participants who completed the SCATI at the university, a majority completed it in 10 min or less. Examples of the first five items of the SCATI are as follows: *Item 1: I have repeatedly done things that could get me arrested* (Antisocial scale). *Item 2: I avoid activities that involve a lot of contact with people* (Avoidant scale). *Item 3: I am very afraid of being abandoned by someone* (Borderline scale). *Item 4: I have trouble making everyday decisions* (Dependent scale). *Item 5: I usually feel gloomy, unhappy, joyless, or cheerless* (Depressive scale).

#### Coolidge Axis II Inventory

The CATI (as described earlier) assesses *DSM-IV-TR* axis I clinical syndromes, axis II personality disorders, and neuropsychological dysfunction (e.g., Coolidge, 2005; Coolidge & Merwin, 1992). It also assesses two personality disorders (sadistic and self-defeating) from *DSM-III-R* (American Psychiatric Association, 1987). The CATI uses a four-point Likert-type scale ranging from 1 (*strongly false*) to 4 (*strongly true*). The median internal scale reliability for the 14 personality disorder scales (Cronbach's alpha) is .76 (range: Dependent scale = .87; Obsessive-Compulsive scale = .68). The 14 personality disorder scales have a mean test-retest reliability of .90 (1 week).

The CATI attained a 50% concordance rate with clinicians' diagnoses, and it had a median concurrent validity correlation with the Millon Clinical Multiaxial Inventory-II of .58 for the personality disorder scales. The CATI has preliminary evidence of reliability and validity from numerous studies (e.g., Coolidge, 2005). In the present study, the CATI norms were based on a sample of 716 community-dwelling adults (mean age = 30.0 years, range = 16–83 years; 358 males, 358 females).

#### *Five-Dimensional Personality Test*

The 5DPT is a 100-item self-report inventory with 20 items on each of five scales, with a yes-no response format (van Kampen, 2006). A brief description of the five dimensions is as follows: Neuroticism = anxiety, apprehension, pessimism; Extraversion = friendly, lively, gregarious; Insensitivity = callousness, insensitivity to others' feelings, critical of others; Absorption = being totally immersed in activities, imaginative, unusual somatic, and perceptual experiences; and Orderliness = perfectionism, strong need for order and regularity. The English standardization sample ( $N = 683$ ) had a median Cronbach's internal scale reliability of  $\alpha = .86$ . The median test-retest reliability was  $r = .92$  over a 1-week interval (Coolidge et al., 2008).

#### **Research design overview**

The participants in the present sample ( $N = 588$ ) completed the new, revised version of the SCATI and the 5DPT. The data from this sample of participants were used in the following 'Results' section analyses: the determination of internal scale reliabilities, gender differences, construct validity with PCA, and convergent validity analyses between the SCATI and the 5DPT. A random subsample ( $N = 74$ ) of this larger sample ( $N = 588$ ) was chosen to participate in a second testing with the SCATI 1 week later, thus, the test-retest analyses, in the 'Results' section, were based on the random subsample of  $N = 74$ . Only for the following convergent validity analysis between the SCATI and the CATI, as described below, was a separate archival sample of  $N = 876$  used [as described in detail from the CATI manual (Coolidge, 2005) and available from the senior author of the present paper].

## **Results**

#### **Internal scale reliabilities**

The median internal scale reliability (Cronbach's alpha) for the 14 personality disorder scales was .66. They ranged from a high of  $\alpha = .74$  for the Depressive scale to a low of  $\alpha = .58$  for the Obsessive-Compulsive scale (see Table 1 for a complete summary). It is important to note that all of the data were initially screened for out-of-range and missing values, and there were none.

#### **Test-retest reliability**

A subset of the participants ( $N = 74$  or 13%) was randomly chosen for test-retest reliability. The median test-retest reliability (over a 1-week interval) for the 14 personality disorder scales was  $r = .83$ . They ranged from a high of  $r = .89$  for the Borderline scale to a low of  $r = .72$  for the Sadistic scale (see Table 1).

**Table 1.** SCATI internal scale reliabilities, test-retest reliabilities, gender, and effect sizes

	$\alpha$ ( <i>N</i> = 588)	<i>r</i> ( <i>N</i> = 74)	<i>M</i> ( <i>SD</i> )	Men <i>M</i> ( <i>SD</i> )	Women <i>M</i> ( <i>SD</i> )	<i>t</i> ( <i>N</i> = 499)	$\eta$
Antisocial	.65	.82	8.23 (2.58)	8.75 (2.71)	7.89 (2.42)	-3.62*	.16
Avoidant	.71	.84	9.24 (2.83)	9.17 (2.74)	9.16 (2.85)	-0.04	.002
Borderline	.67	.89	8.59 (2.79)	8.26 (2.59)	8.59 (2.91)	1.29	.06
Dependent	.68	.74	7.87 (2.36)	7.53 (2.34)	8.06 (2.39)	2.40*	.11
Depressive	.74	.85	9.41 (2.92)	9.03 (2.77)	9.49 (2.94)	1.73	.08
Histrionic	.66	.81	10.30 (2.77)	10.02 (2.73)	10.43 (2.79)	1.59	.07
Narcissistic	.63	.80	10.49 (2.66)	10.71 (2.67)	10.29 (2.72)	-1.64	.07
Obsessive-Compulsive	.58	.88	10.85 (2.72)	10.61 (2.49)	11.09 (2.86)	1.93*	.09
Paranoid	.71	.88	9.46 (2.87)	9.41 (2.82)	9.46 (2.85)	0.18	.01
Passive-Aggressive	.66	.78	9.41 (2.58)	9.66 (2.69)	9.16 (2.53)	-2.06*	.09
Sadistic	.64	.72	6.78 (2.05)	7.49 (2.30)	6.46 (1.88)	-5.39*	.24
Self-Defeating	.61	.85	8.49 (2.42)	8.42 (2.46)	8.39 (2.39)	-0.10	.005
Schizotypal	.61	.87	8.59 (2.78)	8.57 (2.81)	8.68 (2.79)	0.42	.02
Schizoid	.65	.78	7.52 (2.41)	7.94 (2.50)	7.43 (2.43)	-2.24*	.10
Median	.66	.83	-	-	-	-	.08

Note.  $\eta < .24$  is considered a small effect size,  $\eta \geq .24$  or  $\eta < .37$  is considered a moderate effect,  $\eta \geq .37$  is considered a large effect; \* $p < .05$ .

### Gender differences

As summarized in Table 1, there were six personality disorder scales that were significantly different between genders. Men were significantly higher than women on the Antisocial, Passive-Aggressive, Sadistic, and Schizoid scales whereas women were significantly higher than the men on the Dependent and the Obsessive-Compulsive scales. Only one gender difference (on the Sadistic scale) produced a moderate effect size with all others producing a small effect.

### Convergent validity: Correlations between the CATI and SCATI personality disorder scales

It is important to note that this analysis was not conducted upon the present sample (*N* = 588) as described in the 'Method' section, but upon an archival CATI sample of *N* = 876 (as noted previously, this archival sample is described in detail in the CATI manual (Coolidge, 2005), which is available from the senior author of the present paper). Because the 70 SCATI items were originally chosen from the 250 CATI items, Pearson correlations were performed between the 14 personality disorder scales of the CATI and corresponding scales of the SCATI from this archival CATI sample (*N* = 876). The median correlation for the 14 scales was  $r = .77$ . In their order of magnitude, the correlations were as follows: Depressive = .96, Avoidant = .90, Schizoid = .89, Borderline = .84, Sadistic = .81, Self-Defeating = .80, Dependent = .77, Histrionic = .77, Antisocial = .76, Narcissistic = .75, Schizotypal = .71, Passive-Aggressive = .70, Paranoid = .68, Obsessive-Compulsive = .62. All were significant at  $p < .01$ .

**Construct validity: PCA**

To determine whether the underlying component structure of the SCATI resembled such previous analyses of the CATI and SCATI, a PCA with varimax rotation (eigenvalues greater than 1.00) was performed on the 70-item SCATI. A four-component solution was deemed best fitting based on combinations of observed variables that were highly correlated, correlated minimally with other components, a minimum of five items loading highly on a component (.40 or greater), and intuitively interpretable (see Tabachnik & Fidell, 2006, for a more complete explanation of the interpretation of PCA and rotations). The first component, labelled *Inferiority*, accounted for 13% of the total variance (eigenvalue = 8.8). Four of the five items from both the Dependent and Depressive scales loaded at .54 or higher and three of five items loaded at .54 or higher from the Avoidant personality disorder scale. Overall, the items appeared to be assessing low self-esteem, feelings of worthlessness, indecisiveness, and excessive self-criticalness, particularly in association with others.

The second component, *Antisocial/Sadistic*, accounted for 10% of the variance (eigenvalue = 6.7). Four of the five items from both the Antisocial and Sadistic scales loaded at .43 or higher and three of five items loaded at .43 or higher from the Borderline personality disorder scale. Overall, the items appeared to be assessing recklessness, impulsiveness, lying, instability, dangerousness to self and others, and cruelty.

The third component, *Rigidity*, accounted for 7% of the variance (eigenvalue = 4.7). All five items from both the Obsessive-Compulsive and Paranoid scales loaded at .39 or higher. Overall, the items appeared to be assessing rigidity, inflexibility, attention to small details, distrust of others, and vengefulness.

The fourth component, *Pathological extraversion-introversion* (with narcissistic features), accounted for 6% of the variance (eigenvalue = 4.3). Four of the five items from both the Histrionic and Narcissistic scales loaded at .47 or higher. All five items from the Schizoid scale loaded in the negative direction on the component

**Table 2.** Pearson correlations between 5DPT scales and the 14 SCATI personality disorder scales

SCATI personality disorder scales	5DPT scales				
	Extraversion	Neuroticism	Absorption	Insensitivity	Orderliness
Antisocial	-.01	.01	.02	.32**	-.37**
Avoidant	-.47**	.50**	-.11	.24**	-.02
Borderline	-.09	.27**	.05	.34**	-.16*
Dependent	-.27**	.49**	-.05	.08	-.03
Depressive	-.39**	.67**	-.03	.30**	.06
Histrionic	.40**	-.11	.13	.29**	-.07
Narcissistic	.21*	-.08	.09	.41**	.08
Obsessive-Compulsive	-.17*	.30**	.03	.32**	.58**
Paranoid	-.24**	.44**	.08	.34**	.16*
Passive-Aggressive	-.09	.29**	.05	.50**	-.04
Sadistic	-.09	.04	.07	.51**	-.12
Self-defeating	-.28**	.43**	.04	.25**	-.09
Schizotypal	-.02	.06	.34**	.31**	-.06
Schizoid	-.47**	.33**	-.04	.36**	.14

Note. \*, significant at the .05 level (two-tailed); \*\*, significant at the .01 level. Italicised figures indicate correlations  $\leq -.30$  or  $\geq .30$ .

( $-.27$  or stronger). Overall, the items appeared to measure attention-seeking behaviours, admiration from others, seductiveness, and the right to special treatment.

### **Construct validity: Convergent validity with the 5DPT**

Correlations were computed between the 14 SCATI scales and the five dimensions of the 5DPT (see Table 2). As might be expected, the Extraversion scale of the 5DPT had a moderate, positive correlation with the Histrionic scale and moderate, negative correlations with the Avoidant scale and the Schizoid scale. The Neuroticism scale had positive correlations ( $r > .30$ ) with seven of the 14 personality disorder scales. The Absorption scale had only one significant positive correlation with the Schizotypal scale. The Insensitivity scale had significant positive correlations ( $r > .30$ ) with 10 personality disorder scales. Finally, the Orderliness scale had only two significant correlations: a strong positive correlation with the Obsessive-Compulsive scale and a moderate negative correlation with the Antisocial scale.

### **Discussion**

Overall, the analyses support the preliminary reliability and validity of this revised version of the SCATI, and they warrant further research in clinical samples. The findings also support those of Watson and Sinha (2007) who used an earlier version of the SCATI. The first hypothesis was also supported: the present study found marginally better scale reliabilities. Cronbach's coefficients for the 14 personality disorder scales ranged from  $\alpha = .58-.74$ , with a median  $\alpha = .66$ . Watson and Sinha found a range of  $\alpha = .46-.73$  with an average of  $\alpha = .62$ . They did not present test-retest data, whereas the present study found a median test-retest for the 14 personality disorder scales of  $r = .83$ , suggesting strong stability over a short interval as expected on a measure of traits.

The internal scale reliability coefficients found in the present study and previous study (Watson & Sinha, 2007) requires further discussion. In a classic and provocative study of the nature of Cronbach's alpha, Cortina (1993) noted that a primary misconception is that a standard of excellence (e.g.,  $\alpha \geq .90$ ) or a minimum standard of acceptableness ( $\alpha \geq .70$ ) can be used to evaluate scales without regard to the number of items on a scale. As Cortina noted, the formula for alpha has the number of items ( $N$ ) squared (i.e.,  $N^2$ ) in the numerator, thus, making the overall value of alpha highly dependent on the number of items on the scale. He further noted that 'Although most who use alpha pay lip-service to this fact, it seems forgotten when interpreting alpha' (p. 101). As the full CATI has only one scale with fewer than 10 items and the median scale reliability of its 14 personality disorder scales is .76, we would argue that the present internal scale reliabilities are acceptable, given the low number of items on each SCATI scale, and the present scale reliabilities are evidence of the preliminary item reliability of a short-form assessment of *DSM* personality disorders. One reviewer has suggested that we offer guidelines in the interpretation of scale reliability for scales with a smaller number of items. Obviously, our work involves only five-item scales. However, in our opinion, it appears that  $\alpha \geq .70$  is a sufficient scale reliability standard, whereas  $\alpha < .60$  may require further investigation. These standards are also predicated on the underlying factor structure, where higher first factor or component concentrations will yield higher alpha's, where item wording is not an issue.

There was also general support for the second hypotheses that there would be sufficient convergent validity between the SCATI and the 5DPT, a measure of general psychopathology. An inspection of Table 2 reveals that all 14 SCATI personality disorder scales had a least one significant correlation with the 5DPT scales, seven SCATI scales had two significant correlations, five SCATI scales had three significant correlations, and one SCATI scale had four significant correlations. Even in the sole case of only one SCATI scale significantly correlated with only one dimension of the 5DPT, it was highly meaningful: the Sadistic SCATI scale was highly correlated ( $r = .51, p < .01$ ) with the Insensitivity scale of the 5DPT. The latter scale is known to be a good measure of core features of the antisocial personality disorder as described in *DSM-IV-TR*, as the 5DPT scale measures a general callousness and insensitivity to other people's feelings.

With regard to the gender differences in the SCATI scales, Watson and Sinha (2007) found men to be significantly higher than women on seven scales (i.e., Antisocial, Narcissistic, Passive-Aggressive, Sadistic, Self-Defeating, Schizoid, and Schizotypal scales), whereas women were higher on the Dependent scale. They did not report individual scale effect sizes, but noted that they ranged from median to large. In the present study as in the Watson and Sinha study, men were also higher on the Antisocial, Passive-Aggressive, Sadistic, and Schizoid scales whereas women were higher on the Dependent scale. However, the effect sizes were all small, with the exception of the Sadistic scale, which, however, only reached the minimum level for a moderate effect size. There were no significant gender differences for the Obsessive-Compulsive scale in Watson and Sinha's study, although women in the present study were significantly higher. However, in summary, the results for gender between the two studies are similar and in the expected direction for most clinical studies (e.g., Hartung & Widiger, 1998). The only major difference between the two present studies existed in the effect sizes. Perhaps, the differences reside in the samples. The present study had a greater age range and higher mean age of participants compared to the Watson and Sinha sample. If personality disorders and their features attenuate with age, at least generally (Segal *et al.*, 2006) then the discrepancy between the effect sizes of these two studies may be explained. Certainly, future studies of gender differences should address these issues.

There was some evidence of convergent validity between the CATI and SCATI. At the outset of this discussion, however, it is critically important to note that because the 70 SCATI items were chosen directly from the 250 items from the CATI, it might be expected that there would be substantial correlations between the CATI and SCATI scales. Indeed, the median correlation between the 14 personality disorder scales on the two measures was .77. Thus, we would caution that the relatively strong correlations between the two inventories may be artifactually high due to the fact that the five SCATI items on each personality disorder scale were chosen directly from the 250 CATI items. Indeed, it might be questioned why the correlations are not higher. In this regard, it should be noted that the CATI personality disorder scales contain many more items than those just measuring the official specific criteria listed in the *DSM*. The CATI contains items that also sample the 'General Features and Associated Features' sections of each personality disorder classification in the *DSM*. Thus, this may explain why the convergent validity correlations are not higher given that five core items on the SCATI and CATI were identical but this finding may also lend some support to the argument that the correlations are not entirely artifactual. In summary, we would urge caution in an overly optimistic interpretation of the evidence for convergent validity between the SCATI and the CATI because of the present sampling procedure. Certainly, future studies



should be conducted where a large single sample takes the CATI and SCATI separately over, perhaps, a 1-month interval.

There was a substantial similarity between the results of the PCA in the Watson and Sinha (2007) study and the present one, even though they used an initial version of the SCATI, and the present study is based on a revised version of the SCATI. The present PCA with varimax rotation found a nearly identical first three-components structure with an avoidant, antisocial/sadistic, and a pathological continuum of introversion-extraversion components. However, a four-component structure was deemed best-fitting because an additional component, when analysed for item content, revealed a theme of behavioural rigidity, as there were strong loadings from all the items on the Obsessive-Compulsive and Paranoid scales. We found theoretical support for this component as Millon *et al.* (2004) have written about variants of the obsessive-compulsive personality, one of whom, the *conforming style*, describes an obsessive-compulsive personality with many features similar to the paranoid personality disorder. They stated that the conforming style is proper, conventional, much similar to the associated features in *DSM-IV-TR* of the paranoid personality disorder including excessive objectivity, rationality, and the need to have a high degree of control of those people around them. Watson and Sinha (2007) noted that the components they extracted for the SCATI were similar to the CATI, which were similarly found by Coolidge and Merwin (1992) and Watson and Sinha (1996). Thus, it appears that the present results indicate that the component structures are similar between the SCATI and CATI, establishing preliminary convergent validity of the SCATI. Furthermore, the SCATI appears to have a component structure with sufficient specific variance for additional component analyses such as behavioural rigidity.

We would also like to note the difficulties in developing reliable and valid scales that measure personality disorders. Although recent versions of the *DSM* clearly specify the critical criteria for each personality disorder, and it also specifies clearly how many of the criteria must be met to meet the diagnostic threshold for each personality disorder, the diagnostic system is not without issues. One problem is that the personality disorders have evolved or changed over various version of the diagnostic manual (Coolidge & Segal, 1998) thus making research more challenging. For example, depressive personality disorder was added to the appendix of *DSM-IV* while passive-aggressive personality disorder was moved from Axis II to the appendix. Two personality disorders that were listed in *DSM-III-R*, self-defeating personality disorder, and sadistic personality disorder, were completely deleted from *DSM-IV*. In regard to the latter personality disorders, we have maintained their presence as clinical scales in the present version of the SCATI. We have done so because these two disorders are known to be highly prevalent in particular clinical populations. For example, the self-defeating personality disorder has been diagnosed in up to 20% of women who have been referred to the legal system for abusive relationships (e.g., Coolidge & Anderson, 2002). It has also been shown to be present in prison inmates, as approximately 5% of prisoners meet criterion (e.g., Coolidge *et al.*, 2009). The latter study also found that approximately 11% of a sample of 3,962 inmates met criterion for sadistic personality disorder. Thus, developing a reliable and valid measure of personality disorders obviously takes a concerted and informed effort, and changing which personality disorders are to be included in the newest version of the *DSM* make this development all the more difficult.

A second problem in developing personality disorder assessment tools is the traditional thinking that people with personality disorders are often ego syntonic to

their own disorders, that is, they are unaware and unconcerned how their own behaviours negatively affect others. While ego syntonicity is not universally true of all people with personality disorders, it is certainly true for some of them, often making accurate self-assessments difficult. One interesting aspect of the CATI, in order to circumvent this problem, was the development and validation of a significant-other form (Coolidge, Burns, & Mooney, 1995). Thus, one future study of the SCATI might be the development of a significant-other form for use with spouses, family members, friends, and acquaintances of the personality disordered person. A third problem in developing personality disorder measures is that some aspects of personality disorder criteria are inherently more difficult to quantify and measure behaviourally than many Axis I clinical syndromes. For example, it is easy to imagine that the behavioural repercussions of an Axis I major depressive disorder (e.g., depressed mood, loss of interest in activities, and lethargy) are more obvious than the sense of entitlement that accompanies the narcissistic personality disorder or the identity disturbance that accompanies the borderline personality disorder. Despite these issues, personality disorders have such a profound effect upon the diagnosis and treatment of nearly all clinical syndromes that we feel, at the very least, a brief and broadband screening inventory is paramount and worthy of investigation.

In summary, Watson and Sinha (2007) concluded that the SCATI appeared to be a 'useful, psychometrically sound, reduced version of the 225-item [sic] CATI' (p. 440). The present results appear to support this conclusion. It is well-known that personality disorders profoundly influence the treatment and prognosis of all clinical syndromes such as mood disorders, anxiety disorders, schizophrenia, addictive disorders, and many others (e.g., Segal *et al.*, 2006). We therefore believe a broad, brief screening questionnaire specifically designed for personality disorders might be considered a diagnostic imperative. Of course, we would not argue that such a brief questionnaire be a *sine qua non* assessment for the presence of a personality disorder, as a clinical interview structured by *DSM-IV-TR* criteria might be considered a kind of 'gold standard'. Nonetheless, a brief, reliable, and valid personality disorder assessment might be an invaluable aid in the initial identification of those individuals who might require additional examination.

The present results are limited by a relatively homogeneous sample of convenience, and while there was substantial variation in the personality disorder scales, it might be fairer to state that personality disorder traits or features were measured rather than full-blown personality disorders. Another issue is the inter-rater reliability as the present study is based on a single, self-rating. The reliability of the data might be enhanced in future studies if the self-ratings were corroborated by significant-other ratings of the target such as ratings by siblings, parents, and friends. Future studies should be conducted with clinical samples in a wide variety of circumstances, and it would be important to ensure balanced representation of males and females. Additional SCATI research might include the development of scales within the 70 items to assess excessive denial, malingering, and random and/or inconsistent responding, and more importantly to provide cut-off scores and explicit norms and criteria for diagnoses. The SCATI has been designed to be a reliable, valid, brief, and cost effective measure of personality disorders. Its brevity, of course, is theoretically at odds with traditional scale reliability measures like Cronbach's alpha, which is highly dependent upon the number of items on a scale. Nevertheless, it appears that this revised version of the SCATI possesses sufficient scale reliability, and concurrent and construct validity to warrant further investigations.

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