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A FIVE-FACTOR MEASURE OF SCHIZOTYPAL PERSONALITY DISORDER

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ABSTRACT OF THESIS

A FIVE-FACTOR MEASURE OF SCHIZOTYPAL PERSONALITY DISORDER

The current study provides convergent, discriminant, and incremental validity data for a measure of schizotypia from the perspective of the Five-Factor Model (FFM) of general personality structure. Nine schizotypia facet scales were constructed as maladaptive variants of respective facets of the FFM (e.g., Aberrant Ideas as a maladaptive variant of FFM Openness to Ideas). On the basis of data from 143 undergraduates the convergent validity of these nine facet scales was tested with respect to 11 established measures of schizotypia and the respective facets of the FFM. Discriminant validity was tested with respect to other personality disorders and facets from other FFM domains. Incremental validity was tested with respect to the ability of the FFM schizotypia facet scales to account for variance in two established measures of schizotypia, after variance accounted for by respective FFM facets and other established measures of schizotypia were first removed. The findings support the validity of these new facet scales as measures of schizotypia and as maladaptive variants of the FFM.

KEYWORDS: Five-Factor Model, Schizotypal Personality Disorder, Assessment, Validation, Maladaptive Variants.

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THESIS

By

Maryanne Edmundson

The Graduate School

University of Kentucky

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A FIVE-FACTOR MEASURE OF SCHIZOTYPAL PERSONALITY DISORDER

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THESIS

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A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science in the
College of Arts and Sciences
at the University of Kentucky

By

Maryanne Edmundson

Lexington, Kentucky

Director: Thomas A. Widiger, Ph.D., Professor of Psychology

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2010

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Chapter One: Introduction

Personality disorders are currently diagnosed with the American Psychiatric Association's (APA) *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; APA, 2000). "DSM-IV-TR is a categorical classification that divides mental disorders into types based on criteria sets with defining features" (APA, 2000, p. xxxi). Each DSM-IV-TR personality disorder is assessed with respect to seven to nine diagnostic criteria, a subset of which must be present in order to meet diagnostic threshold. Many problems, however, have been raised with respect to the diagnostic categories, including heterogeneity among persons sharing the same categorical diagnosis, excessive diagnostic comorbidity, inadequate coverage, arbitrary boundary with normal psychological functioning, and inadequate scientific foundation (Clark, 2007; Livesley, 2001; Trull & Durrett, 2005; Widiger & Trull, 2007).

One of the limitations of the existing diagnostic categories is the provision of only a single diagnostic term to describe a heterogeneous construct characterized by a constellation of maladaptive personality traits. Most of the personality disorder diagnostic criterion sets in DSM-III (APA, 1977) were monothetic, in that all of the criteria were required in order to provide a diagnosis. However, it soon became apparent that persons with the same diagnosis rarely had precisely the same diagnostic features. Therefore, the authors of DSM-III-R (APA, 1987) switched to polythetic criterion sets in which only a subset of diagnostic criteria are required (Widiger, Frances, Spitzer, & Williams, 1988). For example, in DSM-IV-TR, any five of nine optional criteria are required for the diagnosis of schizotypal personality disorder (STPD; APA, 2000). Table 1 provides these diagnostic criteria. Polythetic criterion sets, however, may be more of an acknowledgement of than a resolution to the problems associated with the heterogeneity among persons sharing the same diagnosis. In fact, it is possible for two individuals to meet the DSM-IV-TR criteria for STPD yet have only one diagnostic feature in common!

DSM-IV-TR Schizotypal Personality Disorder

STPD is defined in DSM-IV-TR as "a pervasive pattern of social and interpersonal deficits marked by acute discomfort with, and reduced capacity for, close relationships as well as by cognitive or perceptual distortions and eccentricities of behavior" (APA, 2000, p. 697). It is perhaps evident simply from this description that STPD is not a unidimensional, homogeneous diagnostic construct.

Schizotypy has indeed been conceptualized as a collection of interrelated constructs rather than a unidimensional entity (Chapman, Chapman, & Kwapil, 1995), the exact structure of which though is not entirely clear (Wuthrich & Bates, 2006). Proposed symptom structures of

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schizotypy have generally ranged from two to four factors. Two-factor models generally describe schizotypy as being comprised of positive symptoms, such as cognitive and perceptual distortions, and negative symptoms, such as social anxiety, constricted or inappropriate affect, and lack of close relationships (e.g., Kendler, Ochs, Gorman, Hewitt, Ross, & Mirsky, 1991; Livesley & Schroeder, 1990). Three and four-factor models of schizotypy also tend to include a positive symptom (or "cognitive-perceptual") factor and a negative symptom (or "interpersonal") factor. However, the composition of the third and fourth factors of these models is less clear. Three-factor conceptualizations of schizotypy have proposed a third factor consisting of "disorder of relating" or social impairment (e.g., Strauss, Carpenter, & Bartko, 1974; Venables & Rector, 2000), paranoia or suspiciousness (e.g., Bergman et al., 1996; Wolfradt & Straube, 1998), nonconformity (Kendler & Hewitt, 1992), or disorganization or "oddness," which includes odd speech and behavior (e.g., Andreasen, Arndt, Alliger, Miller, & Flaum, 1995; Battaglia, Cavallini, Macciardi, & Bellodi, 1997; Bentall, Claridge, & Slade, 1989; Bergman, Silverman, Harvey, Smith, & Siever, 2000; Gruzelier, Burgess, Stygall, Irving, & Raine, 1995; Gruzelier, 1996; Liddle, 1987; Raine, Reynolds, Lencz, Scerbo, Triphon, & Kim, 1994; Reynolds, Raine, Mellingen, Venables, & Mednick, 2000; Rossi & Daneluzzo, 2002; Suhr & Spitznagel, 2001; Vollema & Hoijtink, 2000).

Most four-factor models include positive symptoms, negative symptoms, and disorganization as the first three factors, but add fourth factors such as asocial behavior (e.g., Bentall, Claridge, & Slade, 1989; Claridge et al., 1996), paranoia (e.g., Handest & Parnas, 2005; Stefanis, Smyrnis, Avrampoulos, Evdokimidis, Ntzoufras, & Stefanis, 2004; Suhr & Spitznagel, 2001), or impulsive nonconformity (Mason, 1995). An alternative four-factor model includes positive symptom and disorganization factors, but splits the negative symptom factor into physical anhedonia and social anhedonia (Venables & Bailes, 1994).

Five-Factor Model of Personality Disorder

Several alternative dimensional models of classification have been proposed to describe personality pathology. One such alternative dimensional model is the five-factor model (FFM; McCrae & Costa, 2003). The FFM of general personality was originally derived from studies of the English language in an effort to identify the fundamental domains of personality (Ashton & Lee, 2001). The relative importance of a trait is indicated by the number of terms that have been developed within a language to describe the various degrees and nuances of that trait, and the structure of the traits is evident by the relationship among the trait terms. Subsequent lexical studies have been conducted on many additional languages (e.g., Czech, Dutch, Filipino, German,

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Hebrew, Hungarian, Italian, Korean, Polish, Russian, Spanish, & Turkish), and this research has confirmed reasonably well the existence of the FFM domains (Ashton & Lee, 2001). These five broad domains have been identified in the lexical studies by various terms, such as extraversion (surgency or positive affectivity), agreeableness versus antagonism, conscientiousness (or constraint), neuroticism (emotional instability or negative affectivity), and openness (intellect or unconventionality).

Costa and McCrae (1995) have further differentiated each of these five domains into six underlying facets through their development of and research with the NEO Personality Inventory-Revised (NEO PI-R; Costa & McCrae, 1992). For example, the facets of openness are openness to fantasy, aesthetics, feelings, actions, ideas, and values. There is considerable empirical support for the construct validity of the FFM, including multivariate behavior genetics with respect to the structure of the FFM (Yamagata et al., 2006), childhood antecedents (Caspi, Roberts, & Shiner, 2003; Mervielde, De Clercq, De Fruyt, & Van Leeuwen, 2005), temporal stability across the life span (Roberts & DelVecchio, 2000), and cross-cultural validity, both through emic studies (Ashton & Lee, 2001) and etic studies (Allik, 2005; McCrae et al., 2005). This is a scientific foundation that is sorely lacking from the existing nomenclature (Widiger & Trull, 2007). As acknowledged by even proponents of the existing personality disorder diagnostic constructs, "similar construct validity has been more elusive to attain with the current DSM-IV personality disorder categories" (Skodol et al., 2005, p. 1923).

There is a considerable body of research to indicate that the DSM-IV-TR personality disorders can be understood as a maladaptive variant of the domains and facets of the FFM. Widiger and Costa (2002) identified over 50 such studies, and quite a few more have since been published (Mullins-Sweatt & Widiger, 2006; Widiger & Lowe, 2007). These studies have used a wide variety of measures and have sampled from a diverse array of clinical and non-clinical populations. A meta-analysis of a number of these studies (Saulsman & Page, 2004) and an interbattery factor analysis of 20 previously published data sets that examined relations between the FFM and the personality disorders (O'Connor, 2005) all have led to the conclusion that there are strong and robust links between the DSM-IV personality disorder formulations and the FFM dimensions of general personality structure. As acknowledged by Livesley (2001), "multiple studies provide convincing evidence that the DSM personality disorder diagnoses show a systematic relationship to the five factors and that all categorical diagnoses of DSM can be accommodated within the five-factor framework" (p. 24). As expressed by Clark (2007), "the five-factor model of personality is widely accepted as representing the higher-order structure of

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both normal and abnormal personality traits" (p. 246) and the "DSM personality disorders can be characterized with the FFM conceptually…and empirically" (p. 230). These are compelling endorsements as they are provided by authors of alternative dimensional models (Clark et al., in press; Livesley, 2007).

The NEO PI-R can even be used as an explicit measure of DSM-IV-TR personality disorders. The first such NEO PI-R prototypal matching study was conducted by Miller, Lynam, Widiger, and Leukefeld (2001). Miller et al. (2001) developed an FFM description of a prototypic case of psychopathy by averaging the description of a prototypic case in terms of the 30 facets of the NEO PI-R provided by 15 psychopathy researchers. The thirty FFM facet scores of 481 participants of the Lexington Longitudinal Study (as assessed with the NEO PI-R; Costa & McCrae, 1992) were then correlated with the researchers' FFM description of the prototypic case, providing thereby a quantitative index of the extent to which an individual's NEO PI-R personality structure matched the FFM personality structure of a prototypic psychopath.

Miller et al. (2001) used this correlation as each participant's NEO PI-R psychopathy index, varying in value from -1.0 to 1.0. This index correlated .52 ($p < .001$) with the participants' scores on the primary psychopathy scale of the Levenson Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995), and correlated as highly with external validators of psychopathy (e.g., antisocial behaviors and substance usage) as had been previously reported in prior psychopathy research. Miller et al. (2001) concluded that their results indicated that "psychopathy could be assessed and represented" (p. 268) by the NEO PI-R despite the fact that the NEO PI-R does not itself include any explicit assessment of the diagnostic criteria for psychopathy. Subsequent empirical support for the NEO PI-R psychopathy prototype index has been provided by Miller and Lynam (2003) and for borderline personality disorder by Trull, Widiger, Lynam, and Costa (2003). Additional prototypal matching studies have been conducted with other DSM-IV-TR personality disorders (Miller, Bagby, & Pilkonis, 2005; Miller, Pilkonis, & Morse, 2004; Miller, Reynolds, & Pilkonis, 2004).

However, a fundamental limitation of using the NEO PI-R to assess DSM-IV personality disorders is that it lacks the fidelity, as a measure of normal personality structure, to fully account for personality disorder symptomatology (Reynolds & Clark, 2001; Trull et al., 2003). Studies relating the NEO PI-R to measures of personality disorder have supported the hypothesis that these personality disorders can be meaningfully understood as maladaptive variants of the domains and facets of the FFM, but it is unlikely that the NEO PI-R will itself be able to provide an adequately comprehensive assessment of specific personality disorders given its emphasis on

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the more normal range of personality functioning. For example, Reynolds and Clark (2001) reported that the 15 maladaptive personality scales from the Schedule for Nonadaptive and Adaptive Personality (SNAP; e.g., Mistrust, Manipulation, Aggression, Self-Harm, and Detachment) outperformed the NEO PI-R facet scales (e.g., Warmth, Compliance, Openness to Ideas, and Competence) in predicting personality disorder symptoms. They suggested that this occurred largely because "the FFM measures assess normal-range traits [whereas] the SNAP primarily assesses extreme variants of normal-range traits that are maladaptive and clinically relevant" (Reynolds & Clark, 2001, p. 218). In other words, it was not that the SNAP and the NEO PI-R were assessing qualitatively different domains of personality functioning. "The maladaptive personality traits assessed by the SNAP were strongly represented in the facet scales of the NEO PI-R" (Reynolds & Clark, 2001, p. 216). However, the SNAP, relative to the NEO PI-R, is providing more focus on the maladaptive variants of FFM personality traits

This was demonstrated empirically in a study that focused in part on STPD, one of the personality disorders for which relatively weak or inconsistent FFM findings have been obtained. Haigler and Widiger (2001) suggested that this was due in part to the failure of the NEO PI-R to include a sufficient number of items to assess for maladaptive variants of openness. Only twenty percent of the NEO PI-R openness items, when keyed in the direction of high openness, describe maladaptive personality functioning. Haigler and Widiger (2001) altered the existing NEO PI-R openness items by inserting words to indicate that the normal, adaptive behavior described within each item was excessive, extreme, or maladaptive. The content of the items was not otherwise altered. Insignificant to marginal correlations, .04, -.09, and -.11, were obtained for NEO PI-R openness with STPD as assessed by the SNAP (Clark et al., in press), the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Morey, Waugh, & Blashfield, 1985), and the Personality Diagnostic Questionnaire-4 (PDQ-4; Bagby & Farvolden, 2004), respectively (p > .05 in each case). However, the experimentally manipulated version of the NEO PI-R openness scale obtained significant correlations of .28, .24, and .33 with the SNAP, MMPI-2, and PDQ-4, respectively (p <.01 in each case). In sum, in order to provide a sufficient FFM assessment of STPD (and perhaps other personality disorders) it is necessary to develop measures of the maladaptive FFM facets that are central to STPD.

FFM Facet Scales for STPD

The purpose of the current study was to develop and provide initial validation data for an FFM measure of STPD. The procedure used to develop this measure was modeled after the development of the Elemental Psychopathy Assessment (EPA), a measure of basic psychopathy

traits that was created using the FFM as a framework (Lynam, Miller, & Widiger, manuscript under editorial review). In order to identify which FFM facets are central to STPD, and thus which should be included in an FFM assessment of STPD, the following sources were utilized: (1) expert opinion, (2) the empirical relationship of measures of STPD to measures of the FFM, and (3) coding of STPD items in terms of the FFM.

Expert Opinion. Widiger, Trull, and Clarkin (1994) coded each of the diagnostic criteria for the DSM-III-R personality disorders in terms of facets of the FFM, including the criterion set for STPD. Widiger, Trull, Clarkin, Sanderson, and Costa (2002) repeated this exercise using the DSM-IV criterion set. The results of their coding are provided in Table 2. As indicated in Table 2, they concluded that STPD involves maladaptive variants of high anxiousness, self-consciousness, openness to fantasy, openness to actions, and openness to ideas, and low warmth, gregariousness, positive emotions, and trust.

Lynam and Widiger (2001) subsequently surveyed 12 STPD researchers. They asked them to describe a prototypic case of STPD in terms of the FFM using the Five-Factor Model Rating Form (FFMRF; Mullins-Sweatt, Jamerson, Samuel, Olson, & Widiger, 2006). The FFMRF uses a 1 to 5 point rating scale, where 1 = extremely low, 2 = low, 3 = neither low nor high, 4 = high, and 5 = extremely high. Samuel and Widiger (2004) extended this survey to the opinions of clinicians who were members of Division 42 (Private Practitioners) of the American Psychological Association. Table 2 identifies the facets for which the researchers and clinicians provided ratings of 4.00 or above (high) or 2.00 or below (low).

There is an appearance of notable differences across these three sources of expert opinion. Neither the researchers nor the clinicians described prototypic STPD as being low in the facet of trust. However, their mean scores were quite close to the arbitrary cut point of 2.00 (i.e., 2.08 and 2.04, respectively). Similarly the clinicians did not describe prototypic STPD as being high in anxiousness, but the mean score for this facet was quite close to 4.00 (i.e., 3.85). The researchers' mean score for openness to fantasy was 3.83.

One potentially significant discrepancy worth noting is that the researchers and clinicians did not describe prototypic STPD as being high in openness to actions, despite the fact that in the FFMRF this facet is described at the high end as involving "unconventionality" and "eccentricity." Their mean ratings were 2.81 and 2.42 for this facet (respectively). The correlation between the researchers' and clinicians' descriptions of prototypic STPD across all 30 facets of the FFM was .91. The correlation with the Widiger et al. (2002) coding of the diagnostic criteria was lower (.79 and .74, respectively) but this is due mostly to the fact that the latter was confined

to nine facets.

Empirical Research. The Saulsman and Page (2004) meta-analysis was confined to the domains of the FFM as there were too few studies at that time that had administered the NEO PI-R, or any other measure of the FFM that included facet scales. Their results indicated that STPD involves high neuroticism and low extraversion, with average effect sizes across the 15 studies of .38 and -.28 (respectively). The effect size for agreeableness was only -.17, but one might not expect that a relationship with a single facet of agreeableness (low trust) would be evident in an analysis confined to the level of the FFM domain. The average effect size for openness to experience was only .09, perhaps due in large part to limitations of the NEO PI-R in its assessment of maladaptively high openness (Haigler & Widiger, 2001).

Samuel and Widiger (2008) extended the meta-analysis of Saulsman and Page (2004) to include a consideration of the 30 FFM facets, as assessed by the NEO PI-R (Costa & McCrae, 1992), the FFMRF (Mullins-Sweatt et al., 2006), or the Structured Interview for the Five-Factor Model (SIFFM; Trull & Widiger, 1997). They found positive relationships for STPD with anxiousness and self-consciousness, and negative relationships with warmth, gregariousness, positive emotions, and trust, as hypothesized. They also reported a moderating effect of instrument for facets of openness. More specifically, the hypothesized relationships with openness to fantasy and ideas were confirmed in studies using the SIFFM but not by studies using the NEO PI-R.

The Saulsman and Page (2004) and Samuel and Widiger (2008) meta-analyses were confined to studies administering measures of STPD as described in the APA (2000) diagnostic manual. However, the more commonly used measures of schizotypy within the research literature are the Magical Ideation (MIS; Eckblad & Chapman, 1983), Perceptual Aberration (PAS; Chapman, Chapman, & Raulin, 1978), Revised Physical Anhedonia (RPAS; Chapman, Chapman, & Raulin, 1976), and Revised Social Anhedonia (RSAS; Eckblad, Chapman, Chapman, & Mishlove, 1982) scales. A distinct advantage of these four scales is their provision of independent assessments of putative facets or components of STPD, rather than treating the personality disorder as a unidimensional construct.

Ross, Lutz, and Bailley (2002) reported the correlations of these four schizotypy scales with the FFM, as assessed by the NEO PI-R, in a sample of introductory psychology students. The RPAS and RSAS correlated negatively with warmth, gregariousness, and positive emotionality, as well as with trust, altruism, and low openness to feelings. The MIS and PAS correlated with openness to fantasy in men (but not in women), and, with one exception, openness

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to ideas (the PAS did not correlate with openness to ideas in women). Both scales also correlated with openness to aesthetics for both sexes. It may also be worth noting that the RPAS correlated negatively with openness to fantasy, actions, and ideas.

Coding of STPD and Schizotypal Scale Items. A third approach to determining which facets of the FFM to include in an FFM measure of STPD was to code individual STPD scale items in terms of the facets of the FFM. This was helpful in addressing limitations of the assessment of the FFM used in studies empirically relating the FFM to these measures of STPD and schizotypy, as well as developing a further appreciation of the potential content of the FFM-STPD facet scales.

The items from the STPD scales of the Millon Clinical Multiaxial Inventory-III (MCMI-III; Millon, 1994), the PDQ-4 (Bagby & Farvolden, 2004), the SNAP (Clark et al., in press), the Schizotypal Personality Questionnaire (SPQ; Raine, 1991), the OMNI Personality Inventory-IV (OMNI-IV; Loranger, 2001), and the Wisconsin Personality Disorder Inventory (WISPI; Klein, Benjamin, Rosenfeld, Treece, Husted, & Greist, 1993), as well as the MIS (Eckblad & Chapman, 1983), PAS (Chapman, Chapman, & Raulin, 1978), RPAS (Chapman, Chapman, & Raulin, 1976), and RSAS (Eckblad et al., 1982) were each coded in terms of FFM facets. Items were coded independently by myself and Dr. Thomas Widiger.

Consistent with the published literature reviewed earlier, quite a few items were coded for the facets of anxiousness, self-consciousness, trust, warmth, gregariousness, positive emotionality, openness to fantasy, and openness to ideas. However, the coding also revealed a few additional findings of particular importance for developing FFM-STPD facet scales.

First, it was difficult to differentiate between openness to fantasy and openness to ideas, at least with respect to STPD symptomatology. These two facets of the FFM were identified in the coding of STPD diagnostic criteria by Widiger et al. (2002), in the expert opinions of clinicians (Samuel & Widiger, 2004), in the meta-analysis by Samuel and Widiger (2008) when the SIFFM was used as the measure of the FFM, and in the study of Ross, Lutz, and Bailley (2002) with the MIS and PAS. However, in none of these instances was any apparent distinction made between openness to ideas and openness to fantasy.

Chapman and colleagues do make a distinction between Magical Ideation and Perceptual Aberration, but these two scales were not distinguished in the Ross, Lutz, and Bailley (2002) study with respect to openness to ideas versus openness to fantasy, nor does there appear to be a more apparent relationship, conceptually, of Magical Ideation or Perceptual Aberrations with either ideas or fantasy. It is also worth noting in this regard that many schizotypy studies also fail

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to find meaningful differences between these two scales and they are often collapsed into one scale, titled PER-MAG (e.g., Chapman, Chapman, & Kwapil, 1995). It was therefore decided that the FFM measure of STPD would not include separate facet scales for openness to fantasy and ideas, but would instead include separate Aberrant Ideation and Aberrant Perception facet scales within the facet of openness to ideas.

An additional finding from the coding of STPD and schizotypy scale items was the frequent coding of items within the facet of openness to actions, more specifically items concerning odd, eccentric, unconventional behavior and speech. None of these items appeared to be well-coded as involving extreme or maladaptive fantasy or ideation, but they did appear to fit well with maladaptively extreme (unconventional) actions. This finding is consistent with the coding of the DSM-IV criterion set by Widiger et al. (2002).

Five-Factor Measure of Schizotypal Personality Disorder (FFM-STPD)

Table 3 provides the final list of 9 FFM facet scales included in the draft version of the FFM-STPD. Information regarding scale construction and revision is included in Results. The purpose of the proposed thesis was to obtain initial data on the FFM-STPD facet scales' validity as measures of maladaptive variants of their respective FFM facets and as measures of STPD.

Table 1. DSM-IV-TR[a] diagnostic criteria for schizotypal personality disorder.

1. Ideas of reference (excluding delusions of reference)

2. Odd beliefs or magical thinking that influences behavior and is inconsistent with subcultural norms (e.g., superstitiousness, belief in clairvoyance, telepathy, or "sixth sense"; in children and adolescents, bizarre fantasies or preoccupations)

3. Unusual perceptual experiences, including bodily illusions

4. Odd thinking and speech (e.g., vague, circumstantial, metaphorical, overelaborate, or stereotyped)

5. Suspiciousness or paranoid ideation

6. Inappropriate or constricted affect

7. Behavior or appearance that is odd, eccentric, or peculiar

8. close friends or confidants other than first-degree relatives

9. Excessive social anxiety that does not diminish with familiarity and tends to be associated with paranoid fears rather than negative judgments about self

[a]American Psychiatric Association (2000), p. 710.

Table 2. Expert ratings of five-factor model facets for schizotypal personality disorder.

	Widiger et al. (2002)	Lynam & Widiger (2001)	Samuel & Widiger (2004)
Neuroticism			
Anxiousness (N1)	High[a]	High	
Angry Hostility (N2)			
Depressiveness (N3)			
Self-Consciousness (N4)	High	High	
Impulsivity (N5)			
Vulnerability (N6)			
Extraversion			
Warmth (E1)	Low[b]	Low	Low
Gregariousness (E2)	Low	Low	Low
Assertiveness (E3)			
Activity (E4)			
Excitement-Seeking (E5)			
Positive Emotions (E6)	Low	Low	Low
Openness			
Fantasy (O1)	High		High
Aesthetics (O2)			
Feelings (O3)			
Actions (O4)	High		
Ideas (O5)	High	High	High
Values (O6)			
Agreeableness			
Trust (A1)	Low		
Straightforwardness (A2)			
Altruism (A3)			
Compliance (A4)			
Modesty (A5)			
Tender-Mindedness (A6)			
Conscientiousness			
Competence (C1)			
Order (C2)		Low	
Dutifulness (C3)			
Achievement-Striving (C4)			
Self-Discipline (C5)			
Deliberation (C6)			

[a]4.00 or above. [b]2.00 or below.

Table 3. Facet scales for inclusion in the Five-Factor Measure of Schizotypal Personality
      Disorder (FFM-STPD).

NEO PI-R[a] facet	FFM-STPD facet scale
Anxiousness	Social Anxiousness
Self-Consciousness	Social Discomfort
Warmth	Social Anhedonia
Gregariousness	Social Isolation & Withdrawal
Positive Emotions	Physical Anhedonia
Actions	Odd & Eccentric
Ideas	Aberrant Ideas
Ideas	Aberrant Perceptions
Trust	Interpersonal Suspiciousness

[a]NEO Personality Inventory-Revised (Costa & McCrae, 1992).

Chapter Two: Method

Participants

Participants included 453 undergraduates currently enrolled in introductory psychology courses at the University of Kentucky and were compensated for their participation with course credit. Thirty-four participants were excluded because they completed less than half of the measures. An additional 125 participants were excluded due to scores of 4 or more on the CATI Infrequency scale (see CATI section of Materials). Of the remaining participants (n=286), half were included in the item selection process and half were included in convergent, discriminant, and incremental validity analyses. Demographic characteristics of each half of the sample are provided in Table 4. Additionally, the total retained sample included 36 individuals with higher levels of schizotypal characteristics from the initial screening (see Procedure section).

Materials

Five-Factor Measure of Schizotypal Personality Disorder (FFM-STPD). The draft version of the FFM-STPD consisted of 238 items answered on a 5-point scale ranging from strongly disagree (rated 1) to strongly agree (rated 5). The FFM-STPD included nine facet scales designed to assess the maladaptive variant of respective FFM facets as they relate to schizotypic experiences. Three facet scales assessed schizotypic Extraversion: Social Anhedonia (e.g., "I am not emotionally close to most people"), Social Isolation & Withdrawal (e.g., "I prefer to have little to do with people"), and Physical Anhedonia (e.g., "There are not many things that I really enjoy doing"). Three facet scales assessed facets of Openness to Experience: Odd & Eccentric (e.g., "People have told me that my behavior is odd"), Aberrant Ideas (e.g., "I have some beliefs that other people think are strange"), and Aberrant Perceptions (e.g., "I often have some really strange experiences"). Two facet scales assessed facets of Neuroticism: Social Anxiousness (e.g., "I am anxious around people, even after I get to know them"), and Social Discomfort (e.g., "Being in a group of people makes me very uneasy"). Finally, one facet scale, Interpersonal Suspiciousness, assessed Agreeableness (e.g., "I often wonder whether friends or coworkers are trustworthy"). Following item selection, the FFM-STPD included a total of 90 items (10 items per facet scale; see Appendix A).

NEO Personality Inventory-Revised (NEO PI-R; Costa & McCrae, 1992). The NEO PI-R is a 240-item self-report inventory designed to assess normal personality domains according to the FFM. It uses a 5-point Likert scale (ranging from "strongly disagree," rated 1, to "strongly agree," rated 5).

Experimental NEO PI-R Openness Scale (ExpNEO; Haigler & Widiger, 2001). As stated earlier, researchers posit that the FFM, as measured by the NEO PI-R, does not adequately assess for the presence of maladaptive openness (Haigler & Widiger, 2001). Haigler and Widiger's experimental NEO PI-R (ExpNEO) was constructed to assess extreme or maladaptive versions of NEO PI-R items and uses the same 5-point Likert scale response format as the NEO PI-R (described above). The ExpNEO openness scale correlated well with the NEO PI-R (r = .67) in Haigler and Widiger's study (2001). The 48 openness items from the ExpNEO will be included in the present study to provide an assessment of maladaptive openness to experience.

Conventionality Scale (CIPC) from the Inventory of Personality Characteristics (IPC-7; Waller, 1999). The IPC-7 is a self-report inventory designed to measure Tellegen and Waller's seven-factor model of personality. It uses a 4-point Likert scale ranging from "definitely true" to "definitely false." The present study will include the Conventionality scale (CIPC), which assesses nonconformity versus conventionality, from the IPC-7 as another representation of adaptive and maladaptive openness. The CIPC was selected because high openness has been described, at times, as representing "unconventionality" (e.g., Mullins-Sweatt et al., 2006). A twin-family study showed a consistency coefficient of .83 (Waller, 1999).

Coolidge Axis II Inventory (CATI; Coolidge, 1993). The CATI is a self-report inventory designed to assess DSM-III-R personality disorders and five Axis I disorders (anxiety, posttraumatic stress disorder, social phobia, depression, and schizophrenia). It is composed of 225 items assessed using a 4-point Likert scale ranging from "strongly false" (1) to "strongly true" (4). The CATI has a one-week test-retest reliability of .90, a median Cronbach's alpha of .76 for the personality disorder scales, and a mean Cronbach's alpha of .87 for the full measure (Coolidge, 1993). The STPD scale from the CATI was included in a large multi-study data collection to screen for individuals reporting high rates of STPD symptoms; these individuals were invited to participate in the present study in an effort to oversample for individuals with schizotypal characteristics. The full CATI was included to assess for the presence of all 10 current personality disorders. Additionally, the CATI includes a 3-item Infrequency scale used to identify random responding. Due to these items' content (e.g., "I played quarterback for the Denver Broncos"), the chances of individuals responding with any answer other than "strongly false" (i.e., a score of greater than 3) are remote, making this a stringent exclusionary method.

Schizotypal Personality Questionnaire (SPQ; Raine, 1991). The SPQ is a self-report inventory designed to assess DSM-III-R (APA, 1987) STPD criteria using nine subscales (ideas of reference, social anxiety, odd beliefs/magical thinking, unusual perceptual experiences,

eccentric/odd behavior and appearance, no close friends, odd speech, constricted affect, and suspiciousness/paranoid ideation). It includes 74 items that require a "yes" or "no" response. The SPQ has a reported two-month test-retest reliability of .82 and coefficient alpha of about .90 (Raine, 1991).

Millon Clinical Multiaxial Inventory-III (MCMI-III; Millon, 1994). The MCMI-III is a 175-item true-false self-report inventory designed to assess DSM-IV-TR (APA, 2000) personality disorders and some Axis I disorders. Researchers have reported test-retest reliabilities ranging from .82 to .96 for all 26 scales (measured over 5 to 14 day intervals) and coefficient alphas ranging from .66 to .90 (.85 for the schizotypal scale; Groth-Marnat, 1997). The MCMI-III STPD scale has also been shown to have good convergence with the assessment of STPD of other abnormal personality measures (e.g., correlation coefficients between the MCMI-III and MMPI-2 have ranged from .63 to .84; Widiger & Boyd, 2009). The present study will include only the 16 MCMI-III items pertaining to STPD.

OMNI Personality Inventory-IV (OMNI-IV; Loranger, 2001). The OMNI-IV is a 390-item self-report inventory intended to assess both normal personality (25 scales) and DSM-IV (APA, 1994) personality disorders (10 scales). The OMNI-IV also includes seven scales derived from joint factor analysis of the normal personality and personality disorder scales. It uses a 7-point Likert scale (ranging from "definitely agree," rated 1, to "definitely disagree," rated 7). Internal consistency coefficients have ranged from .79 (conscientiousness) to .94 (agreeableness and neuroticism; Loranger, 2001). The present study will include only the 29 OMNI-IV items pertaining to STPD.

Personality Diagnostic Questionnaire-4 (PDQ-4; Bagby & Farvolden, 2004). The PDQ-4 is a 99-item true-false self-report inventory intended to measure the 10 DSM-IV-TR (APA, 2000) personality disorders and two personality disorders listed in the appendix. This inventory assesses overall personality dysfunction as well as specific personality disorders. Reported internal consistency coefficients have ranged from .56 (schizoid) to .84 (dependent; Hyler et al., 1989). The present study included only the 9 PDQ-4 items pertaining to STPD.

Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark et al., in press). The SNAP is a 375-item factor analytically derived true-false, self-report inventory designed to measure both normal and abnormal personality functioning through dimensional scales. It includes 12 scales to measure maladaptive personality traits (e.g., manipulativeness), three scales to assess broad personality temperaments (e.g., disinhibition), six validity scales, and 11 diagnostic scales for DSM-III-R (APA, 1987) personality disorders. Reported internal

consistency coefficients range from .70 (obsessive-compulsive) to .90 (paranoid; Clark, 1993). The present study will include only the 23 SNAP items pertaining to STPD.

Wisconsin Personality Disorder Inventory (WISPI; Klein et al., 1993). The WISPI is a 204-item questionnaire designed to measure DSM-IV (APA, 1994) personality disorders. Using a five-point Likert scale (ranging from "not at all," rated 1, to "extremely," rated 5), participants rate how often statements have applied to them in the past five years. Two-week test-retest reliabilities range from .71 (schizoid) to .94 (dependent); reported test-retest reliability for STPD is .93 (Klein et al., 1993). The WISPI reportedly correlates well with other measures of personality pathology (e.g., STPD scales correlate .43 with the MCMI-II (Millon, 1987) and .72 with the PDQ (Hurt, Clarkin, & Morey, 1990)). The present study will include only the 19 WISPI items pertaining to STPD.

Chapman Scales. The Magical Ideation Scale (MIS; Eckblad & Chapman, 1983), Perceptual Aberration Scale (PAS; Chapman, Chapman, & Raulin, 1978), Revised Physical Anhedonia Scale (RPAS; Chapman, Chapman, & Raulin, 1976), and Revised Social Anhedonia Scale (RSAS; Eckblad et al., 1982) are self-report true-false inventories that were developed to assess traits related to psychosis proneness. The 30-item MIS was designed to measure "belief in forms of causation that by conventional standards of our dominant culture are regarded as invalid and magical" (Chapman, Chapman, & Kwapil, 1995, p. 92). The 35-item PAS is intended to assess perceptual distortions of one's own body and other phenomena that are specific to schizophrenic-like experience (Chapman, Chapman, & Raulin, 1978). The 61-item RPAS and the 40-item RSAS were constructed to measure two different manifestations of anhedonia, a lowered ability to experience pleasure. The RPAS assesses one's ability to experience sensory and aesthetic pleasure, while the RSAS assesses one's ability to experience pleasure in interpersonal settings and interactions (Chapman, Chapman, & Kwapil, 1995). The Chapman scales have test-retest reliabilities ranging from .75 to .84 and coefficient alphas ranging from .79 to .89 (Chapman, Chapman, & Kwapil, 1995). In a ten-year follow-up study, Chapman, Chapman, and Kwapil (1995) found individuals identified as high on measures of schizotypy reported more clinical psychosis than control participants ten years after identification.

Procedure

The STPD scale from the CATI was administered in a large university-wide screening of undergraduate students currently enrolled in introductory psychology classes and the 100 highest scoring individuals were invited to participate in the current study in order to oversample for individuals with higher levels of schizotypal characteristics. All study measures were

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administered via MRInterview, a secure university-provided online questionnaire-building service. Given the online format, individuals indicated their informed consent by choosing the "agree" option; individuals who, given the informed consent document, chose the "disagree" option were automatically exited from the study. Participants completed the measures in approximately three and a half hours and, upon completion, received a printable debriefing document.

Table 4. Demographic characteristics of participants in item selection and validity
  analyses.

	Item Selection Sample (n=143)	Validity Sample (n=143)
Gender		
Female	62.9[a]	50.3
Male	37.1	49.7
Mean Age (SD)	19.27 (2.25)	18.78 (1.11)
Ethnicity		
Caucasian	93.0	91.6
African American	6.3	2.8
Asian	0.7	2.1
Hispanic	0	1.4
Middle Eastern	0	0.7
Bi-Racial	0	0.7
Unknown	0	0.7
Marital Status		
Single	95.8	96.5
Cohabitating	2.1	3.5
Married	0.7	0
Divorced	0.7	0
Unknown	0.7	0

[a]All demographics are reported in percentage unless otherwise indicated.

Chapter Three: Results

Participants from the item selection and validation samples did not differ on any demographic, criterion, or trait variable. Therefore, it was concluded that data were missing at random. Missing data were thus imputed using the expectation maximization (EM) procedure, which has been shown to produce more accurate estimates of population parameters than other methods, such as deletion of missing cases or mean substitution (Enders, 2006).

Item Development and Selection

Items were written by myself and Dr. Thomas Widiger in order to represent the maladaptive variant of each respective FFM facet as it relates to schizotypic social anxiousness, social discomfort, social anhedonia, social isolation and withdrawal, oddity and eccentricity, physical anhedonia, interpersonal suspiciousness, aberrant ideas, and aberrant perceptions. Item writing yielded a total of 238 items with approximately 26 items per facet scale, 30% keyed in the direction of low STPD, which were refined through an iterative process. Drafted items were compared for redundancy and content validity, which resulted in a modification of a subset of items.

Data from half of the participants (N=143) were then used to correlate each FFM-STPD item with the STPD scales and their respective NEO PI-R facet scales (see Table 3). Additionally, FFM-STPD items were correlated with the schizotypy scales, the Openness facet of the ENEO, and the CIPC, if theoretically relevant. Consistent with expectations each of the 238 FFM-STPD items correlated significantly with its respective NEO PI-R facet scale and each item also correlated with most of the STPD scales (see Table 5 for these findings for the items from the FFM-STPD Social Anxiousness scale).

From these analyses, items were selected in order to (1) retain the 10 highest performing items per facet scale (defined as items with the highest correlations with it respective NEO PI-R facet, the STPD measures, and a schizotypy measure, the ExpNEO, and CIPC, if applicable), (2) retain approximately 30% of items keyed in the directions of low STPD (evenly distributed across all 9 facet scales, if possible), and (3) retain adequate coverage of each schizotypal characteristic while avoiding the inclusion of explicitly redundant items. The ten preferred items from each facet scale constituted initial drafts of each respective FFM-STPD facet scale that were evaluated for internal consistency (see Appendix A for retained items from each facet scale). Each item was then correlated with the sum of the other nine items within its respective facet scale and items correlating less than .30 were re-evaluated for inclusion.

For example, 28 items comprised the initial item pool for the Social Anxiousness facet

scale (see Table 5). Items with the highest correlations with both the NEO PI-R and all 7 STPD scales were preferred. For example, item 104 was selected due to its strong correlation with the NEO PI-R (r = .46) and medium to large correlations with all of the STPD measures (r = .30-.66). Item 95 also had medium to large correlations with the STPD measures (r = .30-.54), but its correlation with the NEO PI-R was much weaker than the majority of the other items (r = .37), making it a less likely candidate for inclusion. Items were also preferred if their content was not too similar to one another. For example, items 140 and 203 were originally selected for inclusion based on their high correlations with both the NEO PI-R (r = .51 and .56, respectively) and the 7 STPD scales (r = .17-.52 and .21-63, respectively); however, the content of these items was considered to be too similar to include both. Item 140 was retained over item 203 because it is reverse-keyed, and item 14 was selected to replace item 203. After reviewing the correlations between these items and the NEO PI-R and STPD measures, items 5, 14, 32, 59, 104, 113, 140, 158, 185, and 235 were selected. Individual selected items correlated significantly with the sum of the other 9 items (r = .54-.80), indicating adequate internal consistency. This selection process yielded acceptable Cronbach's alphas for each FFM-STPD facet scale (a = .87-.93). We then evaluated if there was an appreciable drop in Cronbach's alphas if individual items were removed. For instance, Cronbach's alpha for the Social Anxiousness facet scale was .91; if individual items were removed, this value decreased for six of the items (to a = .90) and remained constant for four of the items.

      Items for two of the FFM-STPD facet scales (Aberrant Ideas and Aberrant Perceptions) were somewhat more difficult to select. Table 6 provides the correlations for the items written for the Aberrant Perceptions facet scale. First, the item selection process required comparison between a larger number of measures than for items for the other facet scales. For example, items for the Aberrant Perceptions facet scale were correlated with the 7 STPD scales, NEO PI-R, PAS, ExpNEO, and CIPC; for an item to be preferred for inclusion, it needed to correlate with all of these scales. Item 225 had medium to large correlations with the PAS and STPD measures (r = .31 and .23-.48, respectively), but did not correlate highly with the NEO PI-R, ExpNEO, or CIPC (r = .07, .10, and .19, respectively); therefore, it was not a good candidate for inclusion. Item 135, on the other hand, yielded at least significant correlations with all the relevant measures, making it an acceptable candidate for inclusion. However, it was not always possible to include items that related well to every measure. Correlations with the NEO PI-R ranged from .00 to .35, which is unsurprising given that the NEO PI-R does not assess for the presence of maladaptively high openness (Haigler & Widiger, 2001). However, the other relevant measures also did not tend to

correlate highly with these items (e.g., the highest correlations were r = .35 for the PAS and .28 for the ExpNEO). While some items correlated highly with the CIPC (e.g., item 198 correlated r = .56), the majority of the Aberrant Perception items correlated .30 or below with this scale. Correlating highly with one relevant measure also did not guarantee that an item would correlate highly with other measures of interest (e.g., though item 99 correlated highly with measures of STPD, r = .33-.61, it did not correlate with the NEO PI-R, ExpNEO, or CIPC, r = .09, .07, and .19, respectively). Item 72 correlated with the STPD measures (r = .25-.38). Its correlation with the NEO PI-R was small (r = .14), but this was unsurprising given that the NEO PI-R does not assess for the presence of maladaptively high openness (Haigler & Widiger, 2001). Still, it did not correlate with the ExpNEO (r = .0). Nevertheless, it correlated with the CIPC (r = .24), another measure relating to openness. This item also correlated with the PAS (r = .23) and was preferred partly because few items related well to this measure of schizotypy.

FFM-STPD Facet Scale Validation

Convergent and Discriminant Validity with NEO PI-R Facet Scales. Data from the remaining 143 participants were used to evaluate the convergent and discriminant validity of the 10-item FFM-STPD facet scales, using the NEO PI-R, ExpNEO, CIPC, STPD scales, and schizotypy scales as criterion measures. Table 7 (first row) provides correlations of the FFM-STPD facet scales with their corresponding NEO PI-R facets (e.g., FFM-STPD Social Anxiousness with NEO PI-R anxiousness; see Table 3 for complete list). Significant convergent validity was obtained for all 9 FFM-STPD facet scales with their respective NEO PI-R facet scales. The FFM-STPD maladaptive openness facet scales also converged significantly with the ExpNEO assessment of openness (see row 4) and CIPC unconventionality (see row 5).

Table 7 also provides discriminant validity data for the relationship of the 9 FFM-STPD facet scales with other NEO PI-R facet scales. Row 2 provides the averaged correlations with the NEO PI-R facets within the same domain as the respective FFM-STPD facet scale, and row 3 provides the averaged correlations with the NEO PI-R facets outside the domain. Note that correlations were expected to be obtained with the facets within the same domain as a respective FFM-STPD facet scale, whereas no significant correlations should be obtained with the facets outside of the domain. For example, the Social Anhedonia facet scale correlated -.46 with the 5 facets within the Extraversion domain as assessed by the NEO PI-R and -.08 with the 24 facets from all other domains. While the within-domain correlation was significant, its magnitude is clearly less than that of the correlation between this FFM-STPD facet scale and its parent NEO PI-R facet (i.e., r = -.70). It is evident from Table 7 that good to excellent discriminant validity

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was obtained for all but a couple of the FFM-STPD facet scales. The only exceptions might be the small correlation of Interpersonal Suspiciousness with the other facets from antagonism (a small to moderate correlation would be expected), and the marginal correlations of Social Anxiousness and Social Discomfort with the facets outside of their respective domains. Note as well that the ExpNEO Openness domain failed to correlate significantly with FFM-STPD facet scales that were outside of the domain of openness. The CIPC, however, did correlate significantly with Interpersonal Suspiciousness, Social Anhedonia, and Social Isolation and Withdrawal, but the magnitude of these correlations was still less than the correlations with the FFM-STPD maladaptive openness facet scales.

Convergent and Discriminant Validity with Personality Disorder Scales. As can be seen in Table 8, all 9 FFM-STPD facet scales converged significantly with the established STPD measures. Further convergence among the FFM-STPD facet scales can be seen with the SPQ subscales (see Table 9), particularly for scales that are directly related in content. For example, significant correlations were obtained for FFM-STPD Interpersonal Suspiciousness with SPQ Suspiciousness (r = .62), FFM-STPD Social Anxiousness with SPQ Excessive Social Anxiety (r = .77), FFM-STPD Odd & Eccentric with SPQ Odd or Eccentric Behavior (r = .73), and FFM-STPD Aberrant Perceptions with SPQ Unusual Perceptual Experiences (r = .50). Some FFM-STPD facet scales did not have direct referents in the SPQ, but significantly correlated with scales that were similar in content. In this case, significant correlations were obtained for FFM-STPD Social Anhedonia with SPQ No Close Friends and Constricted Affect (r = .71 and .59, respectively), FFM-STPD Social Isolation & Withdrawal with SPQ No Close Friends and Constricted Affect (r = .66 and .52, respectively), FFM-STPD Physical Anhedonia with SPQ Constricted Affect (r = .44), and FFM-STPD Social Discomfort with SPQ Excessive Social Anxiety and No Close Friends (r = .72 and .53, respectively). The FFM-STPD Aberrant Ideas facet scale, however, did not correlate as strongly as expected with its referent, SPQ Odd Beliefs or Magical Thinking (r = .28); its content is also related to that of SPQ Odd Speech and Ideas of Reference, though neither of these scales correlated as highly as anticipated (r = .46 and .28, respectively). The FFM-STPD facet scales also did not obtain significant discriminant validity with the SPQ subscales (e.g., the FFM-STPD Interpersonal Suspiciousness, Odd & Eccentric, Aberrant Ideas, and Aberrant Perceptions facet scales correlated significantly with all nine SPQ subscales).

All of the FFM-STPD facet scales are significantly correlated with each other (see Table 10). Some correlated higher than .80 (i.e., Social Anhedonia and Social Isolation and Withdrawal

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correlate r = .81, Social Anxiousness and Social Discomfort correlate r = .86, Odd & Eccentric and Aberrant Ideas correlate r = .84, and Aberrant Ideas and Aberrant Perceptions correlate r = .85). With the exceptions of the correlations of No Close Friends with Ideas of Reference and Odd Beliefs or Magical Thinking (r = .14 and .13, respectively) and Excessive Social Anxiety with Odd Beliefs or Magical Thinking (r = .10), the SPQ subscales also correlated significantly with each other (see Table 11), though none correlated more than .54.

In order to further explore the discriminant validity of the FFM-STPD as it relates to the assessment of personality pathology, each FFM-STPD facet scale was correlated with the 10 CATI personality disorder scales (see Table 12). The FFM-STPD facet scales were expected to correlate with only the personality disorders that include the characteristics assessed by particular scales. This was true in some instances. For example, the Social Anxiousness facet scale correlated with STPD (r = .57) and avoidant personality disorder (r = .78) whose criteria include social anxiousness, but did not correlate with schizoid personality disorder (r = .07) or antisocial personality disorder (r = .02) which do not include anxiousness. Similarly, Interpersonal Suspiciousness correlated with STPD (r = .61) and paranoid personality disorder (r = .66) but not with histrionic or schizoid. If one considers the findings from the perspective of a DSM-IV personality disorder scale, schizoid personality disorder (row 10) correlated with Social Anhedonia, Social Isolation and Withdrawal, Physical Anhedonia, and Social Discomfort, but not with the remaining FFM-STPD facet scales. However, in most instances the FFM-STPD facet scales did correlate with other personality disorder scales, albeit these correlations were generally lower than those obtained with the STPD scale.

Table 12 also includes the discriminant validity correlates for the PDQ-4 (column 11) and the SPQ (column 12). The PDQ-4 was selected from among the administered set of STPD scales because it measures the DSM-IV diagnostic criteria and the SPQ because of its frequent use as a measure of STPD. It was expected that the FFM-STPD facet scales would demonstrate better discriminant validity than these two STPD scales because the latter are more heterogeneous in content than the respective FFM-STPD facet scales. However, this hypothesis was not confirmed.

Additionally, the total FFM-STPD score (the sum of all facet scales) correlated with all 10 personality disorder scales (see Table 12 column 10), though highest with the STPD scale. Moderate correlations with some personality disorder scales were expected due to shared characteristics (e.g., schizoid personality disorder likely correlated .23 because it shares anhedonia and social isolation and withdrawal with STPD). However, several scales obtained significant correlations with the total FFM-STPD scale where none were expected (i.e., antisocial,

borderline, dependent, narcissistic, and obsessive-compulsive personality disorders). Of note, the pattern of correlations of the total FFM-STPD score with the CATI personality disorder scales was similar to the pattern obtained for the SPQ and PDQ-4 with the personality disorder scales.

Convergent and Discriminant Validity with the Chapman Scales. Table 13 provides convergent and discriminant validity data for the relationship of the FFM-STPD facet scales with the Chapman schizotypy scales. Select FFM-STPD facet scales were expected to correlate with related Chapman scales (i.e., Aberrant Ideas with the MIS, Aberrant Perceptions with the PAS, Physical Anhedonia with the RPAS, and Social Anhedonia with the RSAS). With the exception of Aberrant Ideas and Aberrant Perceptions, all of the FFM-STPD facet scales obtained their highest correlations with its respective Chapman scale. It should perhaps be noted though that the Chapman RSAS scale, which correlated with both Aberrant Ideas and Aberrant Perceptions, did demonstrate rather poor discriminant validity, correlating with all of the other FFM-STPD facet scales. However, the convergent validity correlations obtained for Aberrant Ideas and Aberrant Perceptions were still marginal at best.

To further examine these unexpected findings for the Chapman scales, the SPQ subscales were correlated with the Chapman scales (see Table 14). The SPQ subscales converged significantly with all of the Chapman scales: SPQ Ideas of Reference and Odd Beliefs or Magical Thinking with the MIS ($r = .40$ and .56, respectively), SPQ Unusual Perceptual Experiences with the PAS ($r = .42$), SPQ Constricted Affect with the RPAS ($r = .27$), and SPQ No Close Friends and Constricted Affect with the RSAS ($r = .66$ and .48, respectively). The discriminant validity between the SPQ and Chapman scales, like that of the FFM-STPD facet scales and Chapman scales, was fairly poor. For instance, the MIS correlated with all the SPQ subscales except for No Close Friends and the RSAS correlated with all the SPQ subscales except Ideas of Reference and Odd Beliefs or Magical Thinking.

Incremental Validity Over the NEO PI-R. Table 15 provides incremental validity analyses for the FFM-STPD facet scales' performance over and above that of their respective NEO PI-R facets (Appendix B provides the correlations of the respective NEO PI-R facet scales with each STPD scale). The PDQ-4 and the SPQ were used as criterion measures for all incremental validity analyses. Each of the individual FFM-STPD facet scales obtained significant incremental validity over their respective NEO PI-R facet scales accounting for the PDQ-4 and SPQ. For example, the FFM-STPD Social Anxiousness facet scale accounted for variance in the PDQ-4 (15%) and SPQ (25%) over and above that accounted for by the NEO PI-R Anxiousness facet. Only two NEO PI-R facets retained significant beta weights when both the NEO PI-R and FFM-

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STPD facet scales were entered into the SPQ criterion regression: self-consciousness (paired with Social Discomfort) and openness to ideas (when paired with Aberrant Ideas). In all cases, the openness to actions and ideas facets did not account for a significant amount of the variance before the FFM-STPD facet scales were entered, thus making it easy for the FFM-STPD facet scales to obtain incremental validity over them.

Incremental Validity Over STPD Measures. The total FFM-STPD score showed significant incremental validity over established measures of schizotypy accounting for the PDQ-4 and SPQ (see Table 16). For example, the FFM-STPD accounted for variance in the PDQ-4 (20%) and SPQ (34%) over and above that accounted for by the WISPI. The FFM-STPD obtained significant variance over the RPAS, though the RPAS did not obtain significant variance with the PDQ-4 as the criterion and obtained only marginal significance with the SPQ as the criterion before the FFM-STPD was entered. The FFM-STPD also retained a significant beta weight when both it and the RPAS were entered into the regression, though the RPAS did not.

Table 5. Item performance for the FFM-STPD[a] Social Anxiousness facet scale: Relationships to general personality and schizotypal measures, and internal consistency.

FFM-STPD Item	NEO PI-R[b] Anxiousness Facet	STPD Measures[c]	Corrected Inter-Item Correlation	Cronbach's Alpha[d]
*5. **I am not anxious around people.**[e]	.42	.20 to .42 (wispi:spq)[f]	.59	.91
14. **I am anxious around people, even after I get to know them.**	.37	.10 to .39 (wispi:spq)	.55	.91
*23. I rarely feel nervous when I'm in a group of unfamiliar people.	.39	.18 to .40 (omni:spq)		
32. **Social situations tend to make me very anxious.**	.45	.25 to .51 (wispi:cati)	.78	.90
*41. Talking to other people rarely makes me anxious.	.40	.19 to .42 (wispi:spq)		
50. It makes me nervous to be around other people.	.48	.19 to .51 (wispi:cati)		
59. **I often feel nervous when I'm in a group of unfamiliar people.**	.55	.24 to .53 (omni:spq)	.72	.90
68. Being in a group of people makes me very nervous.	.42	.25 to .60 (wispi:cati)		
77. Talking to other people makes me anxious.	.38	.20 to .59 (wispi:cati)		
86. I would feel very anxious if I had to talk to a large group of people.	.38	.19 to .42 (omni:spq)		
95. Few things cause me more anxiety than social situations.	.37	.30 to .54 (wispi:spq)		
104. **Being around people tends to make me very tense.**	.46	.30 to .66 (wispi:cati)	.74	.90
113. **I have more social anxiety than most people.**	.48	.19 to .51 (wispi:spq)	.73	.90
*122. I am not a socially anxious person.	.38	.06 to .38 (wispi:spq)		
131. Even after I get to know someone, I can still feel very anxious around them.	.33	.15 to .44 (wispi:cati)		
*140. **I feel very relaxed when I'm around other people.**	.51	.17 to .52 (wispi:cati & spq)[g]	.76	.90
149. I get uncomfortably anxious at parties and other social gatherings.	.51	.19 to .52 (wispi:cati & spq)		
*158. **I don't get nervous when I'm speaking to people.**	.40	.22 to .37 (wispi:spq)	.54	.91
167. I get nervous when I meet new people.	.54	.16 to .44 (wispi:spq)		
176. I can get pretty uptight when I'm around other people.	.45	.27 to .51 (wispi:spq)		
185. **People make me nervous.**	.60	.18 to .57	.80	.90

		(wispi:cati)		
194. I often get nervous when I'm speaking to people.	.57	.11 to .52 (wispi:spq)		
203. It's hard for me to relax when I'm around other people.	.56	.21 to .63 (wispi:cati)		
212. I often feel real nervous when I'm around lots of people.	.54	.20 to .53 (wispi:spq)		
221. Sometimes I avoid places because people make me anxious.	.45	.15 to .49 (wispi:spq)		
230. I am a socially anxious person.	.47	.18 to .53 (wispi:spq)		
235. I wish I was more comfortable around other people.	.50	.20 to .46 (omni:cati)	.66	.91
237. My anxiety often keeps me from doing things with others.	.46	.11 to .58 (wispi:cati)		

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]NEO Personality Inventory-Revised (Costa & McCrae, 1992); [c]Includes the Schizotypal Personality Questionnaire (SPQ; Raine, 1991), Millon Clinical Multiaxial Inventory III (MCMI; Millon, 1994), OMNI Personality Inventory-IV (OMNI; Loranger, 2001), Personality Diagnostic Questionnaire (PDQ; Bagby & Farvolden, 2004), Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark et al., in press), Wisconsin Personality Inventory (WISPI; Klein et al., 1993), and Coolidge Axis II Inventory (CATI; Coolidge, 1993); [d]Cronbach's alpha for each facet scale if the item were removed, included for selected items only; [e]Bolded items were selected for inclusion; [f]The measure with the lowest correlation to the measure with the highest correlation; [g]Indicates two measures correlating highest with the item; *Reverse-coded.

Table 6. Item performance for the FFM-STPD[a] Aberrant Perceptions facet scale: Relationships to general personality and schizotypal measures, and internal consistency.

FFM-STPD Item	NEO PI-R[b] Openness to Ideas Facet	STPD Measures[c]	Exp NEO[d]	CIPC[e]	PAS[f]	Corrected Inter-Item Correlation	Cronbach's Alpha[g]
*9. I have never mistakenly thought that objects or shadows were people.[h]	.10	.13 to .33 (snap: omni)[i]	.07	.13	.05		
18. I have mistakenly thought that objects or shadows were people.	.15	.21 to .34 (snap: spq)	.06	.18	.12		
*27. The boundaries of my body always seem clear.	.00	.03 to .15 (wispi: cati)	.05	.03	-.03		
36. I sometimes think that noises are voices.	.12	.13 to .32 (snap: omni)	.14	.12	.17		
*45. I have never heard sounds that other people do not seem to hear.	.15	.12 to .34 (wispi: cati)	.15	.05	.11		
54. I have occasionally tasted or smelled things for no obvious reason.	.03	.10 to .28 (wispi: omni)	.07	.13	.12		
63. I have seen faces or objects change their shape or appearance before my eyes.	.09	.20 to .37 (spq: omni)	.01	.17	.28		
72. There have been times when my body has felt unusual or different from normal.	.14	.25 to .38 (wispi: spq)	.00	.24	.23	.60	.87
81. The boundaries of my body do not always seem clear.	.06	.13 to .33 (wispi: omni)	.03	.18	.06		
90. I sometimes feel that parts of my body have become misshapen.	.16	.29 to .50 (pdq: omni)	.14	.22	.36	.53	.88

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Item		Range					
99. I have noticed sounds that other people do not seem to hear.	.09	.33 to .61 (wispi: spq)	.07	.19	.28		
108. I often sense things that other people don't sense.	.14	.35 to .54 (wispi: pdq)	.04	.16	.31	.65	.87
117. I have felt the presence of some person or force that I could not see.	.11	.19 to .40 (wispi: cati)	.04	.20	.26		
*126. I rarely have any really strange experiences.	.08	.15 to .32 (wispi: cati)	.08	.17	.21		
135. What I see or sense sometimes are pretty darn odd and peculiar.	.24	.33 to .51 (wispi: omni)	.21	.32	.33	.70	.87
***144. I feel pretty normal.**	.18	.27 to .47 (wispi: mcmi)	.19	.45	.23	.37	.89
153. I hear things that most people don't hear.	.08	.20 to .39 (wispi: omni)	.17	.12	.27		
*162. I rarely experience any unusual or weird things.	.11	.26 to .39 (wispi: cati)	.13	.29	.26		
171. I sometimes have some pretty weird perceptual experiences.	.18	.22 to .50 (snap: omni)	.16	.30	.28	.65	.87
180. I often feel or perceive some pretty weird things.	.21	.30 to .52 (mcmi: omni)	.17	.33	.30	.76	.86
189. I see things that most people don't see.	.10	.13 to .42 (snap: omni)	.14	.07	.22		
198. Sometimes I feel pretty weird.	.35	.37 to .53 (wispi: spq)	.28	.56	.25	.63	.87
207. I often experience some pretty unusual and weird things.	.17	.25 to .49 (mcmi: omni)	.17	.39	.35		
216. I often have some really strange experiences.	.25	.18 to .43 (mcmi: omni)	.24	.31	.25	.63	.87

Item							
225. I often sense things that might not be real.	.07	.23 to .48 (wispi: omni)	.10	.19	.31		
234. I feel things that most people don't feel.	.15	.24 to .46 (wispi: omni)	.10	.28	.25	.67	.87

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]NEO Personality Inventory-Revised (Costa & McCrae, 1992); [c]Includes the Schizotypal Personality Questionnaire (SPQ; Raine, 1991), Millon Clinical Multiaxial Inventory III (MCMI; Millon, 1994), OMNI Personality Inventory-IV (OMNI; Loranger, 2001), Personality Diagnostic Questionnaire (PDQ; Bagby & Farvolden, 2004), Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark et al., in press), Wisconsin Personality Inventory (WISPI; Klein et al., 1993), and Coolidge Axis II Inventory (CATI; Coolidge, 1993); [d]Corresponding Experimental NEO PI-R Openness to Experience facet (Haigler & Widiger, 2001); [e]Conventionality scale from the Inventory of Personality Characteristics-7 (Waller, 1999); [f]Perceptual Aberration Scale (Chapman, Chapman, & Raulin, 1978); [g]Cronbach's alpha for each facet scale if the item were removed, included for selected items only; [h]Bolded items were selected for inclusion; [i]The measure with the lowest correlation to the measure with the highest correlation; *Reverse-coded.

Table 7. Convergent and discriminant validity of the FFM-STPD[a] facet scales with measures of general personality.

Other Measures	FFM-STPD Facet Scales								
	IS[b] (A1)[c]	SAnh[d] (E1)	SIW[e] (E2)	PA[f] (E6)	SAnx[g] (N1)	SD[h] (N4)	O&E[i] (O4)	AI[j] (O5)	AP[k] (O5)
NEO facet	-.72**	-.70**	-.80**	-.69**	.47**	.61**	.20*	.42**	.30**
Disc Same[l]	-.10	-.46	-.55	-.47	.43	.37	.27	.29	.23
Disc Other[m]	-.07	-.08	-.05	-.08	-.22	-.23	-.14	-.10	-.11
Exp O[n]	.10	.10	.07	-.03	.11	.04	.54**	.58**	.54**
CIPC[o]	.23**	.36**	.28**	.16	.16	.16	.68**	.65**	.55**

**p < .01, *p < .05

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]Interpersonal Suspiciousness; [c]Corresponding NEO PI-R facet for each FFM-STPD facet scale; [d]Social Anhedonia; [e]Social Isolation & Withdrawal; [f]Physical Anhedonia; [g]Social Anxiousness; [h]Social Discomfort; [i]Odd & Eccentric; [j]Aberrant Ideas; [k]Aberrant Perceptions; [l]Discriminant validity between the FFM-STPD and the average correlation of non-corresponding NEO PI-R facets within the same domain; [m]Discriminant validity between the FFM-STPD and the average correlation of non-corresponding NEO PI-R facets outside of each facet scale's domain; [n]Experimental NEO PI-R Openness Domain; [o]Conventionality scale from the Inventory of Personality Characteristics-7 (Waller, 1999); Note: Underlining indicates correlations between maladaptive openness FFM-STPD facet scales and the ExpNEO and CIPC.

Table 8. Convergent validity of the FFM-STPD[a] facet scales with measures of schizotypal personality disorder.

	FFM-STPD Facet Scales								
Other Measures	IS[b] (A1)[c]	SAnh[d] (E1)	SIW[e] (E2)	PA[f] (E6)	SAnx[g] (N1)	SD[h] (N4)	O&E[i] (O4)	AI[j] (O5)	AP[k] (O5)
CATI[l]	.61**	.62**	.62**	.57**	.57**	.56**	.59**	.54**	.59**
MCMI[m]	.62**	.52**	.49**	.47**	.51**	.54**	.41**	.37**	.42**
OMNI[n]	.52**	.47**	.43**	.46**	.42**	.40**	.51**	.47**	.52**
PDQ[o]	.56**	.52**	.50**	.45**	.43**	.45**	.45**	.41**	.50**
SNAP[p]	.60**	.60**	.50**	.41**	.32**	.37**	.48**	.39**	.46**
WISPI[q]	.43**	.28**	.30**	.38**	.32**	.29**	.30**	.31**	.36**
SPQ[r]	.60**	.52**	.48**	.39**	.59**	.59**	.56**	.51**	.56**

**p < .01, *p < .05

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]Interpersonal Suspiciousness; [c]Corresponding NEO PI-R facet for each FFM-STPD facet scale; [d]Social Anhedonia; [e]Social Isolation & Withdrawal; [f]Physical Anhedonia; [g]Social Anxiousness; [h]Social Discomfort; [i]Odd & Eccentric; [j]Aberrant Ideas; [k]Aberrant Perceptions; [l]Coolidge Axis II Inventory (Coolidge, 1993); [m]Millon Clinical Multiaxial Inventory III (Millon, 1994); [n]OMNI Personality Inventory-IV (Loranger, 2001); [o]Personality Diagnostic Questionnaire (Bagby & Farvolden, 2004); [p]Schedule for Nonadaptive and Adaptive Personality (Clark et al., in press); [q]Wisconsin Personality Inventory (Klein et al., 1993); [r]Schizotypal Personality Questionnaire (Raine, 1991).

Table 9. Convergent and discriminant validity of the FFM-STPD[a] facet scales with the SPQ[b] subscales.

SPQ Subscales	FFM-STPD Facet Scales								
	IS[c] (A1)[d]	SAnh[e] (E1)	SIW[f] (E2)	PA[g] (E6)	SAnx[h] (N1)	SD[i] (N4)	O&E[j] (O4)	AI[k] (O5)	AP[l] (O5)
Reference[m]	.31**	.01	.02	.03	.24**	.21*	.22**	.28**	.30**
Anxiety[n]	.51**	.34**	.46**	.38**	.77**	.72**	.20*	.22**	.27**
Beliefs[o]	.26**	.11	.05	.09	.12	.10	.26**	.28**	.38**
Perceptions[p]	.30**	.21*	.16	.14	.19*	.21*	.40**	.39**	.50**
Behavior[q]	.32**	.44**	.43**	.24**	.33**	.32**	.73**	.62**	.53**
Friends[r]	.42**	.71**	.66**	.48**	.50**	.53**	.33**	.25**	.26**
Speech[s]	.34**	.31**	.19*	.16	.32**	.37**	.51**	.46**	.46**
Affect[t]	.49**	.59**	.52**	.44**	.48**	.46**	.37**	.30**	.35**
Suspicious[u]	.62**	.40**	.33**	.37**	.41**	.44**	.35**	.31**	.42**

**p < .01, *p < .05
[a]Five Factor Measure of Schizotypal Personality Disorder; [b]Schizotypal Personality Questionnaire (Raine, 1991); [c]Interpersonal Suspiciousness; [d]Corresponding NEO PI-R facet for each FFM-STPD facet scale; [e]Social Anhedonia; [f]Social Isolation & Withdrawal; [g]Physical Anhedonia; [h]Social Anxiousness; [i]Social Discomfort; [j]Odd & Eccentric; [k]Aberrant Ideas; [l]Aberrant Perceptions; [m]Ideas of Reference; [n]Excessive Social Anxiety; [o]Odd Beliefs or Magical Thinking; [p]Unusual Perceptual Experiences; [q]Odd or Eccentric Behavior; [r]No Close Friends; [s]Odd Speech; [t]Constricted Affect; [u]Suspisciousness.

Table 10. Intercorrelation of the FFM-STPD[a] facet scales.

	FFM-STPD Facet Scales								
	1. IS[b] (A1)[c]	2. SAnh[d] (E1)	3. SIW[e] (E2)	4. PA[f] (E6)	5. SAnx[g] (N1)	6. SD[h] (N4)	7. O&E[i] (O4)	8. AI[j] (O5)	9. AP[k] (O5)
1	-								
2	.59**	-							
3	.55**	.81**	-						
4	.58**	.72**	.68**						
5	.57**	.52**	.66**	.56**	-				
6	.48**	.58**	.69**	.60**	.86**	-			
7	.35**	.48**	.41*	.31**	.29**	.31**	-		
8	.36**	.42**	.38**	.31**	.33**	.35**	.84**	-	
9	.49**	.45**	.40**	.36**	.34**	.40**	.78**	.85**	-

**p < .01, *p < .05

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]Interpersonal Suspiciousness; [c]Corresponding NEO PI-R facet for each FFM-STPD facet scale; [d]Social Anhedonia; [e]Social Isolation & Withdrawal; [f]Physical Anhedonia; [g]Social Anxiousness; [h]Social Discomfort; [i]Odd & Eccentric; [j]Aberrant Ideas; [k]Aberrant Perceptions.

Table 11. Intercorrelation of the SPQ[a] subscales.

SPQ Subscales	1	2	3	4	5	6	7	8	9
1.Reference[b]	-								
2.Anxiety[c]	.31**	-							
3.Beliefs[d]	.31**	.13	-						
4.Perceptions[e]	.46**	.27**	.37**	-					
5.Behavior[f]	.28**	.27**	.33**	.45**	-				
6.Friends[g]	.14	.54**	.10	.32**	.41**	-			
7.Speech[h]	.35**	.34**	.22**	.47**	.50**	.34**	-		
8.Affect[i]	.23**	.47**	.20*	.39**	.45**	.73**	.48**	-	
9.Suspicious[j]	.52**	.52**	.19*	.38**	.32**	.54**	.49**	.54**	-

**p < .01, *p < .05

[a]Schizotypal Personality Questionnaire (Raine, 1991); [b]Ideas of Reference; [c]Excessive Social Anxiety; [d]Odd Beliefs or Magical Thinking; [e]Unusual Perceptual Experiences; [f]Odd or Eccentric Behavior; [g]No Close Friends; [h]Odd Speech; [i]Constricted Affect; [j]Suspisciousness.

Table 12. Relationship of the FFM-STPD[a], PDQ[b], and SPQ[c] to the CATI[d] assessment of the DSM[e] personality disorders.

CATI PD	FFM-STPD Facet Scales									FFM-STPD Total	STPD Measures	
	IS[f] (A1)[g]	SAnh[h] (E1)	SIW[i] (E2)	PA[j] (E6)	SAnx[k] (N1)	SD[l] (N4)	O&E[m] (O4)	AI[n] (O5)	AP[o] (O5)		PDQ	SPQ
ASPD[p]	.21*	.24**	.10	.19*	.02	-.03	.43**	.41**	.42**	.31**	.28**	.29**
AVPD[q]	.51**	.51**	.64**	.56**	.78**	.77**	.20*	.22**	.24**	.63**	.38**	.49**
BPD[r]	.46**	.39**	.22**	.31**	.36**	.26**	.37**	.43**	.42**	.48**	.33**	.45**
DPD[s]	.37**	.17*	.16	.31**	.53**	.46**	.08	.13	.22**	.35**	.20*	.36**
HPD[t]	-.07	-.22**	-.41**	-.28**	-.21*	-.31**	.00	.03	.03	-.20*	-.07	-.04
NPD[u]	.28**	.12	.08	.12	.19*	.13	.21*	.23**	.23**	.24**	.18*	.23**
OCPD[v]	.35**	.30**	.41**	.44**	.47**	.47**	.04	.04	.08	.36**	.23**	.20*
PPD[w]	.66**	.52**	.46**	.53**	.52**	.54**	.32**	.32**	.40**	.62**	.46**	.56**
STPD[x]	.61**	.62**	.62**	.57**	.57**	.57**	.59**	.54**	.59**	.77**	.59**	.63**
SZPD[y]	.07	.35**	.47**	.29**	.07	.17*	.16	.04	.02	.23*	.15	.06

**p < .01, *p < .05

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]Personality Diagnostic Questionnaire (Bagby & Farvolden, 2004); [c]Schizotypal Personality Questionnaire (Raine, 1991).[d]Coolidge Axis II Inventory (Coolidge, 1993); [e]Diagnostic and Statistical Manual of Mental Disorders (1987); [f]Interpersonal Suspiciousness; [g]Corresponding NEO PI-R facet for each FFM-STPD facet scale; [h]Social Anhedonia; [i]Social Isolation & Withdrawal; [j]Physical Anhedonia; [k]Social Anxiousness; [l]Social Discomfort; [m]Odd & Eccentric; [n]Aberrant Ideas; [o]Aberrant Perceptions; [p]Antisocial; [q]Avoidant; [r]Borderline; [s]Dependent; [t]Histrionic; [u]Narcissistic; [v]Obsessive-Compulsive; [w]Paranoid; [x]Schizotypal; [y]Schizoid.

Table 13. Convergent and discriminant validity of the FFM-STPD[a] facet scales with the Chapman schizotypy scales.

Chapman Measures	FFM-STPD Facet Scales								
	IS[b] (A1)[c]	SAnh[d] (E1)	SIW[e] (E2)	PA[f] (E6)	SAnx[g] (N1)	SD[h] (N4)	O&E[i] (O4)	AI[j] (O5)	AP[k] (O5)
MIS[l]	.25**	-.02	-.02	.07	.10	.04	.16	.17*	.27**
PAS[m]	.26**	.14	.16	.22**	.19*	.14	.14	.11	.21*
RPAS[n]	.14	.29**	.24**	.40**	.16	.17*	.05	-.01	.02
RSAS[o]	.36**	.55**	.50**	.40**	.31**	.34**	.29**	.24**	.22**

**p < .01, *p < .05

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]Interpersonal Suspiciousness; [c]Corresponding NEO PI-R facet for each FFM-STPD facet scale; [d]Social Anhedonia; [e]Social Isolation & Withdrawal; [f]Physical Anhedonia; [g]Social Anxiousness; [h]Social Discomfort; [i]Odd & Eccentric; [j]Aberrant Ideas; [k]Aberrant Perceptions; [l]Magical Ideation Scale (Eckblad & Chapman, 1983); [m]Perceptual Aberration Scale (Chapman, Chapman, & Raulin, 1978); [n]Revised Physical Anhedonia Scale (Chapman, Chapman, & Raulin, 1976); [o]Revised Social Anhedonia Scale (Eckblad et al., 1982); Note: Underlining indicates correlations between an FFM-STPD facet scale and its respective Chapman scale.

Table 14. Relationship of the SPQ[a] subscales with the Chapman schizotypy scales.

Chapman Measures	SPQ Subscales								
	Ref[b]	Anx[c]	Bel[d]	Perc[e]	Beh[f]	Friend[g]	Speech[h]	Aff[i]	Susp[j]
MIS[k]	.40**	.19*	.56**	.40**	.29*	.11	.23**	.19*	.28**
PAS[l]	.12	.27**	.35**	.42**	.27*	.27**	.26**	.32**	.25**
RPAS[m]	-.07	.13	.01	.01	.05	.29**	.02	.27**	.21*
RSAS[n]	.04	.30**	.08	.28**	.36**	.66**	.25**	.48**	.40**

**p < .01, *p < .05

[a]Schizotypal Personality Questionnaire (Raine, 1991); [b]Ideas of Reference; [c]Excessive Social Anxiety; [d]Odd Beliefs or Magical Thinking; [e]Unusual Perceptual Experiences; [f]Odd or Eccentric Behavior; [g]No Close Friends; [h]Odd Speech; [i]Constricted Affect; [j]Suspisciousness; [k]Magical Ideation Scale (Eckblad & Chapman, 1983); [l]Perceptual Aberration Scale (Chapman, Chapman, & Raulin, 1978); [m]Revised Physical Anhedonia Scale (Chapman, Chapman, & Raulin, 1976); [n]Revised Social Anhedonia Scale (Eckblad et al., 1982).

Table 15. Incremental validity of the FFM-STPD[a] facet scales over corresponding NEO PI-R[b] facets.

FFM-STPD Facet Scales

Predictor	IS[c] (A1)[d] ΔR^2	β	SAnh[e] (E1) ΔR^2	β	SIW[f] (E2) ΔR^2	β	PA[g] (E6) ΔR^2	β	SAnx[h] (N1) ΔR^2	β	SD[i] (N4) ΔR^2	β	O&E[j] (O4) ΔR^2	β	AI[k] (O5) ΔR^2	β	AP[l] (O5) ΔR^2	β
Criterion: PDQ[d]																		
Step 1 NEO[e]	.18**	.18**	.18**	.18**	.17**	.17**	.13**	.13**	.03*	.03*	.11**	.11**	.00	.00	.00	.00	.00	.00
Step 2	.13**		.10**		.09**		.07**		.15**		.10**		.22**		.18**		.25**	
NEO		-.06		-.12		-.01		-.10		-.03		.08		-.14		-.14		-.10
FFM-STPD[f]		.51**		.44**		.49**		.38**		.44**		.40**		.48**		.47**		.53**
Total R^2	.31**		.28**		.25**		.21**		.18**		.20**		.22**		.18**		.25**	
Criterion: SPQ[g]																		
Step 1 NEO	.15**	.18**	.18**	.18**	.20**	.20**	.13**	.13**	.09**	.04	.22*	.17*	.00	.00	.00	.00	.00	.00
Step 2	.21**		.09**		.04*		.04*		.25**		.14**		.32**		.29**		.33**	
NEO		.08		-.13		-.20		-.17		.04		.17*		-.12		-.19*		-.12
FFM-STPD		.66**		.43**		.32*		.27*		.57**		.48**		.58**		.59**		.60**
Total R^2	.36**		.27**		.24*		.17*		.35**		.36**		.32**		.29**		.33**	

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

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]NEO Personality Inventory-Revised (Costa & McCrae, 1992); [c]Corresponding NEO PI-R facet for each FFM-STPD facet scale; [d]Personality Diagnostic Questionnaire (Bagby & Farvolden, 2004); [e]Corresponding NEO PI-R facet was entered in Step 1 for individual analyses; [f]FFM-STPD facet scale; [g]Schizotypal Personality Questionnaire (Raine, 1991).

Table 16. Incremental validity of the total FFM-STPD[a] score over established measures of schizotypy.

	Schizotypy Measures																					
Predictor	CATI[b]		MCMI[c]		OMNI[d]		SNAP[e]		WISPI[f]		MIS[g]		PAS[h]		RPAS[i]		RSAS[j]		PDQ[k]		SPQ[l]	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Criterion: PDQ																						
Step 1 STPD[m]	.34**	.	.46**	.	.37**	.	.44**	.	.27**	.	.12**	.	.20**	.	.04*	.	.19**	.		-	.50**	.
Step 2	.07**		.06**		.10**		.08**		.20**		.33**		.29**		.36**		.23**			-	.03**	
STPD		.59**		.68**		.61**		.67**		.52**		.34**		.45**		.19*		.44**		-		.70**
FFM-STPD[n]		.42**		.33**		.40**		.35**		.49**		.58**		.55**		.61**		.54**		-		.25**
Total R^2	.42**		.52**		.47**		.52**		.46**		.45**		.49**		.39**		.42**		-		.53**	
Criterion: SPQ																						
Step 1 STPD	.39**	.	.59**	.	.44**	.	.49**	.	.19**	.	.17**	.	.16**	.	.02	.	.22**	.	.50**	.		-
Step 2	.13**		.08**		.14**		.13**		.34**		.43**		.40**		.48**		.31**		.12**			-
STPD		.63**		.77**		.67**		.70**		.43**		.41**		.40**		.15		.47**		.70**		-
FFM-STPD		.56**		.37**		.48**		.45**		.64**		.66**		.65**		.71**		.63**		.44**		-
Total R^2	.52**		.68**		.59**		.62**		.52**		.60**		.56**		.50**		.53**		.62**			-

**p < .01, *p < .05

[a]Five Factor Measure of Schizotypal Personality Disorder; [b]Coolidge Axis II Inventory (Coolidge, 1993); [c]Millon Clinical Multiaxial Inventory III (Millon, 1994); [d]OMNI Personality Inventory-IV (Loranger, 2001); [e]Schedule for Nonadaptive and Adaptive Personality (Clark et al., in press); [f]Wisconsin Personality Inventory (Klein et al., 1993); [g]Magical Ideation Scale (Eckblad & Chapman, 1983); [h]Perceptual Aberration Scale (Chapman, Chapman, & Raulin, 1978); [i]Revised Physical Anhedonia Scale (Chapman, Chapman, & Raulin, 1976); [j]Revised Social Anhedonia Scale (Eckblad et al., 1982); [k]Personality Diagnostic Questionnaire (Bagby & Farvolden, 2004); [l]Schizotypal Personality Questionnaire (Raine, 1991); [m]Each STPD measure was entered in Step 1 for individual analyses; [n]FFM-STPD total score.

Chapter Four: Discussion

The present study aimed to develop and provide initial convergent, discriminant, and incremental validation for the FFM-STPD scale. This measure was created in the theory that the symptoms of schizotypal personality disorder, like other personality disorders, can be understood as maladaptive variants of the Five Factor Model (FFM) of general personality (Widiger & Costa, 2002). The authors began with the FFM facets that are central to STPD according to expert opinion (Lynam & Widiger, 2001; Samuel & Widiger, 2004; Widiger, Trull, & Clarkin, 1994; Widiger, Trull, Clarkin, Sanderson, & Costa, 2002), empirical research (Ross, Lutz, & Bailley, 2002; Samuel & Widiger, 2008; Saulsman & Page, 2004), and coding of STPD items in terms of the FFM (for specific facets, see Table 3). Two hundred thirty-eight initial items (about 26 items per facet scale) were written in order to capture the maladaptive variants of these facets as they relate to STPD and were refined through an iterative process. The draft version of the FFM-STPD was administered to an STPD-enriched sample of 286 undergraduates. Final selection was based on item correlations with the NEO PI-R, STPD measures, and respective schizotypy measures, ENEO Openness, and the CIPC using data from half of the sample (n=143). The 10 highest performing items per facet scale, including approximately 30% reverse-keyed and non-explicitly redundant items, were retained. These items demonstrated adequate inter-item correlations and Cronbach's alphas.

Overall, analyses of the FFM-STPD revealed good convergent validity with measures of STPD and the FFM. Convergent validity was also good for the FFM-STPD facet scales measuring maladaptive openness and IPC-7 unconventionality. Convergent validity was not so good with the Chapman scales assessing perceptual aberrations and magical ideation, but was good with the SPQ scales assessing odd behavior and aberrant perceptions. While the FFM-STPD facet scales obtained good discriminant validity when compared to other NEO PI-R facet scales within and outside of the respective domains, discriminant validity of the FFM-STPD facet scales and total score were no better when compared to measures of other personality disorders (i.e., all nine DSM personality disorders other than STPD) and the SPQ scales. The individual FFM-STPD facet scales obtained significant incremental validity over their respective NEO PI-R facet scales and the total FFM-STPD score showed significant incremental validity over established measures of schizotypy accounting for the PDQ-4 and SPQ.

The FFM-STPD's strongest property was its incremental validity over both the NEO PI-R and established measures of STPD. The incremental validity obtained over the NEO PI-R clearly results from the FFM-STPD's assessment of maladaptive variants of NEO PI-R facets.

Previous studies on the validity of the FFM conceptualization of personality disorders have demonstrated only partial support for the relationship of all of the hypothesized facets for each respective personality disorder. For example, Dyce and O'Connor (1998) reported that only eight of the 11 hypothesized facet relationships for STPD were confirmed (all of the failures concerned facets of openness). However, with the FFM STPD facet scales that assess maladaptive variants of each respective facet, all of the hypothesized relationships were confirmed, whereas some of them would not have been confirmed with the NEO PI-R (see Appendix B).

The FFM-STPD total score also obtained incremental validity over each of the other STPD scales in accounting for variance in either the PDQ-4 or the SPQ assessment of STPD. This was not necessarily expected and it may reflect that the FFM-STPD total includes a better representation of all of the various components of STPD. All of the STPD scales did correlate with each respective facet scale of the FFM-STPD, but perhaps they lack as much fidelity in their assessment given the lesser number of items to assess each component.

The FFM-STPD adds to the current STPD assessment literature in several ways. An advantage the FFM-STPD has over other measures of STPD, such as the CATI, MCMI-III, OMNI-IV, PDQ-4, and WISPI, is that the FFM-STPD has facet scales. Given that STPD is heterogeneous, having facet scales allows researchers to determine which aspects of STPD are related to other traits (Smith & Combs, in press). The Chapman scales and SPQ, like the FFM-STPD, also include subscales. However, the FFM-STPD has a potential advantage over these two measures in that the FFM-STPD facet scales relate to facets of a more general model of personality functioning: the FFM. This connection links the FFM-STPD to the strong construct validity literature of the FFM, including genetic (Yamagata et al., 2006), childhood antecedent (Caspi, Roberts, & Shiner, 2003; Mervielde et al., 2005), temporal stability (Roberts & DelVecchio, 2000), and both emic (Ashton & Lee, 2001) and etic (Allik, 2005; McCrae et al., 2005) cross-cultural validation studies, thus providing the FFM-STPD a more stable empirical background than any previous STPD measure (Widiger & Mullins-Sweatt, 2009).

The weakest finding for the FFM-STPD scale was perhaps its poor performance in regard to two of the Chapman scales, the MIS and PAS. The FFM-STPD's poor performance with respect to these two Chapman scales is puzzling. Examination of specific items revealed that the FFM-STPD facet scales and their respective Chapman scales include similar content. For example, the FFM-STPD Aberrant Perceptions item, "There have been times when my body has felt unusual or different from normal," is quite similar to the PAS item, "I sometimes have had the feeling that my body is abnormal." Similarly, the FFM-STPD Aberrant Perceptions item, "I

sometimes feel that parts of my body have become misshapen" seems similar in content to the PAS item, "I have had the momentary feeling that my body has become misshapen." While specific items appear similar in content, the FFM-STPD facet scale items do appear to be less specific than the Chapman scale items. For instance, the FFM-STPD Aberrant Ideas facet scale includes items such as, "I have some beliefs that other people think are strange," while the MIS items tend to refer to specific examples of unusual ideas individuals with STPD might have (e.g., "I have occasionally had the silly feeling that a TV or radio broadcaster knew I was listening to him"). The FFM-STPD Aberrant Perceptions facet scale also tends to include more general items (e.g., "I often feel or perceive some pretty weird things"), whereas most PAS items refer to specific examples of unusual perceptions found in schizotypy (e.g., "Sometimes part of my body has seemed smaller than it usually is").

The findings for the FFM STPD Aberrant Perceptions and Aberrant Ideas facet scales are not necessarily inconsistent with previous studies using the NEO PI-R. Ross, Lutz, and Bailley's (2002) comparison of the Chapman scales with the NEO PI-R showed only marginal correlations with several NEO PI-R facets that are generally included in an FFM description of schizotypy (e.g., the MIS and PAS obtained correlations of .15 to .25 with openness to ideas) in a similar pattern to that obtained in the present study. Camisa, Bockbrader, Lysaker, Rae, Brenner, and O'Donnell (2005) did not find significant relationships between the openness domain of the NEO PI-R and the PAS or MIS. Kwapil, Barrantes-Vidal, and Silvia (2008), however, found that the positive symptom Chapman scales (i.e., PAS and MIS) accounted for significant variance in NEO PI-R openness.

Several factors could have contributed to these mixed results. First, these studies employed the NEO PI-R, which, as noted earlier, does not assess for maladaptive openness (see Haigler & Widiger, 2001). The failure of the NEO PI-R openness scales to correlate with Chapman scales found in previous research is not a satisfying explanation for our results because the FFM-STPD items were written to reflect the maladaptive variants of NEO PI-R facets that are specific to schizotypy (and the FFM-STPD openness facet scales did correlate highly with measures of STPD and the SPQ subscales). Another possible explanation for the failure to obtain correlations with the respective Chapman scales is suggested by Camisa et al. (2005) and Ross, Lutz, and Bailley (2002). Camisa et al. (2005) sampled a clinical population because of the low base rate of STPD in the general population. Ross, Lutz, and Bailley (2002) identified using a student sample as a potential explanation for inconsistent findings between openness to experience and STPD symptoms. In both cases, the authors thought the variation in the symptoms

assessed is not great enough in student populations to find significant relationships in analyses involving those symptoms. Still, if the current enriched sample lacked sufficient variation in symptom levels, the correlations of the FFM-STPD facet scales with the SPQ subscales should also have been poor. Though sample type is not a satisfying explanation for the poor performance of the FFM-STPD with the Chapman scales given the above discussion, future studies should investigate the performance of the FFM-STPD in a clinical population and examine which aspects of the FFM-STPD, SPQ, and Chapman scales add incremental validity to the assessment of STPD.

The FFM-STPD facet scales and total score also obtained generally poor discriminant validity with respect to their relationship with other personality disorders. Weak discriminant validity for the total score is not surprising. It is consistent with the generally poor discriminant validity typically found for the STPD and other personality disorders (Trull & Durrett, 2005). In the current study, both the PDQ-4 and SPQ assessment of STPD obtained significant correlations with all the personality disorders other than histrionic and schizoid personality disorders. However, better discriminant validity was expected for the individual facet scales that are more homogeneous in content. For example, FFM-STPD Social Isolation and Withdrawal correlated as expected with the avoidant and schizotypal personality disorders (and negatively with histrionic) but it also correlated as highly with the paranoid and obsessive-compulsive as it did with the schizoid. FFM-STPD Physical Anhedonia correlated more highly with the avoidant and paranoid personality disorders than it did with the schizoid. FFM-STPD Interpersonal Suspiciousness correlated as expected most highly with the paranoid and schizotypal personality disorders but still obtained significant correlations with the avoidant, borderline, dependent, narcissistic, and obsessive-compulsive personality disorders. This weak discriminant validity though could be due to a limitation of the CATI assessment of these personality disorders (as well as the personality disorders themselves) rather than a limitation of the FFM-STPD facet scales. Future studies should assess the discriminant validity of the FFM-STPD facet scales with additional measures of personality disorder. Nevertheless, it should be acknowledged that there was in fact considerable correlation among the FFM-STPD facet scales (see Table 10).

The high correlation among the FFM-STPD facet scales could support the hypothesis that STPD is a valid syndrome. Many researchers believe that STPD represents a taxon, a discrete category, rather than a dimensional trait (e.g., Lenzenweger & Korfine, 1992; Lenzenweger, McLachlan, & Rubin, 2007). Taxometric analyses derive from the work of Meehl (1962, 1990) who theorized that certain individuals (whom he called "schizotypes") possess a genetic liability

to schizophrenia and makeup the schizotypal taxon. In taxometrics, the patterns of covariance among indicators of a latent trait are examined graphically. Taxometric graphs that show a distinct peak are considered indicative of a taxon, whereas the latent trait is assumed to be dimensional if no distinct peak is seen (Waller & Meehl, 1998). Thirteen taxometric studies of schizotypy have been published to date examining self-rated positive and negative schizotypy symptoms (mostly using the Chapman scales), clinician-reported behavior ratings, interviews, or neuromotor indicators of schizotypy (Blanchard, Gangestad, Brown, & Horan, 2000; Erlenmeyer-Kimling, Golden, & Cornblatt, 1989; Golden & Meehl, 1979; Horan, Blanchard, Gangestad, & Kwapil, 2004; Keller, Jahn, & Klein, 2001; Korfine & Lenzenweger, 1995; Lenzenweger, 1999; Lenzenweger & Korfine, 1992; Linscott, Marie, Arnott, & Clarke, 2006; Meyer & Keller, 2001; Rawlings, Williams, Haslam, & Claridge, 2008a; Tyrka, Cannon, Haslam, Mednick, Schulsinger, Schulsinger, et al., 1995a; and Tyrka, Haslam, & Cannon, 1995b). Three of these studies (Keller et al., 2001; Meyer & Keller, 2001; and Rawlings et al., 2008a) found schizotypal symptoms, particularly positive symptoms, to be dimensional, and two studies (Horan et al., 2004; and Rawlings et al., 2008a) reported inconclusive findings for investigations of the MIS. All of the other studies' findings supported a taxonic model.

Rawlings et al. (2008a) called previous taxometric research into question, stating that skewed indicators of schizotypy (e.g., the Chapman scales) can produce misleadingly taxonic results. Using a simulation method accounting for data skew, they compared obtained data with matched simulated taxonic and dimensional data. Using this simulation technique allowed for direct visual comparison of both characteristically taxonic and dimensional plots (the latter of which previous research has lacked). Rawlings et al. (2008a) asserted that their results mostly favor a dimensional view of schizotypy in that obtained plots better resembled the simulated dimensional data and did not show unambiguously taxonic peaks, the comparative fit index favored the dimensional schizotypy models, and base rate estimates for the RSAS and RPAS failed to converge in the taxonic models. Findings for the MIS were inconclusive (i.e., neither clearly taxonic nor dimensional).

In a rejoinder, Beauchaine, Lenzenweger, and Waller (2008) criticized Rawlings et al.'s (2008a) assertion that the Rawling et al. results might call previous taxometric research into question, deeming it too bold a suggestion to be based on a single study. They denigrated Rawlings et al.'s (2008a) view of the schizotypy construct, recruitment methods, measurement choices, and understanding of taxometric analysis. However, Rawlings, Williams, Haslam, and Claridge (2008b) defended their findings, saying that not only did they use similar recruitment

and measurement methods to other taxometric studies, they improved upon previous research by accounting for positively skewed indicators. They also denied disconfirming previous studies as Beauchaine, Lenzenweger, and Waller (2008) claimed. Instead, Rawlings et al. (2008b) said their findings merely subjects previous taxometric findings to the same empirical challenge as any other scientific hypothesis.

Raine (2006) suggested that STPD is best conceptualized as a personality disorder rather than as a variant of schizophrenia in large part because very few persons with STPD go on to develop schizophrenia and is far more comorbid with other personality disorders than with schizophrenia-related disorders. However, he also posits that there may be two types of STPD, one with a neurodevelopmental etiology that may predispose individuals to schizophrenia and another with a psychosocial etiology that may be more related to other personality disorders than schizophrenia. Raine reported that some individuals with STPD share genetic, early developmental, neuro-functional and structural characteristics with individuals with schizophrenia (e.g., dysfunction of the prefrontal, temporal, and limbic areas of the brain that may lead to disrupted inhibition, attention, working memory, and executive control), tend to present with more disorganized and interpersonal features, and respond better to pharmacological treatments. Raine identifies these individuals as having "neurodevelopmental schizotypy." Other individuals with schizotypy have a weaker genetic connection to schizophrenia, have psychosocial histories similar to other individuals with personality disorders (e.g., child abuse and neglect), present with more cognitive-perceptual symptoms, and respond better to psychosocial treatments. These individuals, whom Raine says have "pseudoschizotypy," also share some brain structure and functioning with individuals with schizophrenia. Raine postulates that the adversity these individuals experience in early life may cause the structural and functional changes though future research will need to determine whether this is the case.

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Chapter Five: Conclusions

The results of the current study support the convergent, discriminant, and incremental validity of the FFM-STPD facet scales. These findings also support the conceptualization of STPD in terms of the FFM, as the FFM-STPD facet scales obtained significant convergent validity with both the respective NEO PI-R facet scales and established STPD measures. These new FFM-STPD facet scales act as a sort of bridge between the FFM and DSM-IV-TR schizotypal personality disorder (i.e., as maladaptive variants of FFM facets that concern schizotypal symptomatology). The results also support the conceptualization of STPD in terms of specific facets of the FFM, including facets from neuroticism (high anxiousness and self-consciousness), extraversion (low positive emotions, gregariousness, and warmth), agreeableness (low trust), and openness (high ideas and actions). Given these findings, the FFM-STPD appears to be a promising new measure of schizotypy.

Appendix A. Five-Factor Measure of Schizotypal Personality Disorder (FFM-STPD) – Final
   Version.

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Interpersonal Suspiciousness (A1: Trust)[a]
    *1. I find it easy to trust other people.
    10. I often wonder whether friends or coworkers are trustworthy.
    19. I often feel that there are hidden threats or put-downs in what people say or do.
    28. I have to keep a look out to keep others from taking advantage of me.
    *37. I trust the people I know.
    46. I sometimes feel that others have it in for me.
    *55. Most people can be trusted.
    64. I think it's best not to let people know too much about you.
    73. I have to be on guard, even among people I know.
    82. It's safest to just keep to yourself.

Social Anhedonia (E1: Warmth)
    2. I don't form strong bonds with people, even my friends.
    *11. I feel close to many people.
    20. When dealing with other people, I prefer to stay aloof and distant.
    29. I am not emotionally close to most people.
    38. People don't know me very well.
    *47. Having close friends is very important.
    56. I tend not to keep in touch with relatives or old friends.
    *65. I really enjoy a close friendship.
    74. I am a rather aloof, distant person.
    83. I never get really that close to my friends.

Social Isolation & Withdrawal (E2: Gregariousness)
    3. I prefer to have little to do with people.
    12. I would rather people left me alone.
    *21. My hobbies and leisure activities tend to involve other people.
    30. I consider myself to be more of a loner than most people.
    *39. I like having lots of friends.
    48. I tend to avoid most social situations.
    57. I am a bit of a loner.
    66. I tend to keep to myself.
    *75. I really enjoy meeting new people.
    84. I don't have many friends.

Physical Anhedonia (E6: Positive Emotions)
    *4. I get pleasure from many things in life.
    13. The taste of food does not give me much pleasure.
    22. There are not many things that I really enjoy doing.
    *31. I sometimes experience really intense joy.
    40. I find there are few things that are pleasurable to look at.
    49. I rarely laugh that much.
    58. I never really get very happy.
    67. I don't experience as much pleasure in things that others do.
    76. Sweet, pleasant songs don't make me that happy.

85. I don't tend to have as much fun doings things as others do.

Social Anxiousness (N1: Anxiousness)
     5. I am anxious around people, even after I get to know them.
 *14. I am not anxious around people.
  23. Social situations tend to make me very anxious.
  32. I often feel nervous when I'm in a group of unfamiliar people.
 *41. I don't get nervous when I'm speaking to people.
 *50. I feel very relaxed when I'm around other people.
  59. Being around people tends to make me very tense.
  68. I have more social anxiety than most people.
  77. People make me nervous.
  86. I wish I was more comfortable around other people.

Social Discomfort (N4: Self-Consciousness)
    6. I feel uneasy in social situations.
  15. I am uneasy with people, even after I get to know them.
 *24. In social situations I am rarely self-conscious.
 *33. I don't feel uncomfortable with most people.
  42. Being around other people puts me on edge.
  51. Being in a group of people makes me very uneasy.
  60. I often worry that I'm going to embarrass myself in front of people.
  69. I often feel that I am making a bad impression on others.
  78. I'm really very awkward around people.
 *87. I don't feel at all uncomfortable in social situations involving unfamiliar people.

Odd & Eccentric (O4: Openness to Actions)
  *7. I'm pretty much like anybody else.
  16. Considering my actions or speech, people tend to think that I'm pretty odd, eccentric, or weird.
  25. People have told me that my behavior is odd.
  34. Others have described my habits as unusual.
  43. I often do or say things that others find weird.
  52. I like doing things that other people would find bizarre.
  61. I am a bit of an eccentric.
  70. I know that I might seem kind of strange and odd to people.
  79. I am into things that other people would find unusual.
  88. I like doing things that other people would find really odd and peculiar.

Aberrant Ideas (O5: Openness to Ideas)
    8. I have some beliefs that other people think are strange.
 *17. I have never been told that my ideas are weird.
  26. People tell me that I often talk about very unusual things.
  35. I wonder sometimes if my thoughts are a bit crazy.
 *44. The way I think about things is pretty normal.
  53. My thinking takes me to places where other people won't go.
  62. I like to explore new and strange ideas.
  71. I like to consider lots of unusual or weird belief systems.
  80. I have thoughts that other people would find strange.
  89. I believe in a lot of things that are pretty unusual.

Aberrant Perceptions (O5: Openness to Ideas)

   9. There have been times when my body has felt unusual or different from normal.
  18. I sometimes feel that parts of my body have become misshapen.
*27. I feel pretty normal.
  36. I often sense things that other people don't sense.
  45. What I see or sense sometimes are pretty darn odd and peculiar.
  54. I sometimes have some pretty weird perceptual experiences.
  63. I often feel or perceive some pretty weird things.
  72. Sometimes I feel pretty weird.
  81. I often have some really strange experiences.
  90. I feel things that most people don't feel.

_____

[a]Facet scale name (corresponding NEO PI-R facet), *Reverse-scored

Appendix B. Relationship of the respective NEO PI-R[a] facet scales[b] with measures of schizoptypal personality disorder.

STPD Measures	NEO PI-R Facet Scales							
	A1[c]	E1[d]	E2[e]	E6[f]	N1[g]	N4[h]	O4[i]	O5[j]
CATI[k]	-.57**	-.59**	-.60**	-.50**	.27**	.33**	.00	.07
MCMI[l]	-.47**	-.42**	-.42**	-.39**	.32**	.45**	-.14	.00
OMNI[m]	-.43**	-.38**	-.38**	-.30**	.23**	.28**	.08	-.02
PDQ[n]	-.43**	-.42**	-.41**	-.36**	.18*	.32**	-.04	.06
SNAP[o]	-.53**	-.48**	-.40**	-.40**	.16	.26**	-.03	.09
WISPI[p]	-.37**	-.28**	-.32**	-.24**	.14	.20*	-.02	.07
SPQ[q]	-.39**	-.43**	-.45**	-.36**	.31**	.47**	.00	.06

**p < .01, *p < .05
[a]NEO Personality Inventory-Revised (Costa & McCrae, 1992); [b]NEO PI-R facet that corresponds to each FFM-STPD facet scale; [c]Trust; dWarmth; [e]Gregariousness; [f]Positive Emotions; [g]Anxiousness; [h]Self-Consciousness; [i]Openness to Actions; [j]Openness to Ideas; [k]Coolidge Axis II Inventory (Coolidge, 1993); [l]Millon Clinical Multiaxial Inventory III (Millon, 1994); [m]OMNI Personality Inventory-IV (Loranger, 2001); [n]Personality Diagnostic Questionnaire (Bagby & Farvolden, 2004); [o]Schedule for Nonadaptive and Adaptive Personality (Clark et al., in press); [p]Wisconsin Personality Inventory (Klein et al., 1993); [q]Schizotypal Personality Questionnaire (Raine, 1991).

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Presentations

Edmundson, M., Lynam, D., Miller, J., & Widiger, T.A. "A Five Factor Instrument for the Assessment of Schizotypia." Presented as part of poster sessions for the International Society for the Study of Personality Disorders, August 22, 2009, and the Society for Research in Psychopathology, September 10, 2009.

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