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Toward resolution of a longstanding controversy in personality disorder diagnosis: Contrasting correlates of schizoid and avoidant traits

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ABSTRACT

Although the construct validity and clinical utility of separate schizoid and avoidant personality disorder (PD) categories has been controversial since avoidant PD was first introduced in DSM-III, few studies have compared individuals with schizoid versus avoidant features on variables relevant to their contrasting personality dynamics. Those few investigations that exist have yielded inconclusive results. In this study a mixed-sex sample of nonclinical participants ($N = 123$) completed the International Personality Disorder Examination Screening Questionnaire (IPDE-SQ) and self-report measures of attachment style, defense style, empathy, internalized shame, need to belong, rejection sensitivity, and social anhedonia. High levels of social anhedonia were uniquely predictive of schizoid features; high levels of need to belong and internalized shame were uniquely predictive of avoidance. These findings support retaining the two PD categories in future versions of the DSM. Supplementary analyses revealed that among women—but not men—schizoid and avoidant traits were positively and significantly intercorrelated; it may be that women show more of a blended schizoid–avoidant profile, whereas men display the more prototypical categorical profile where either schizoid or avoidant features predominate.

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1. Introduction

The existence of separate schizoid and avoidant personality disorder (PD) categories has been controversial since avoidant PD was first introduced in DSM-III (American Psychiatric Association, 1980) several decades ago (see Triebwasser, Chemerinski, Roussos, & Siever, 2012). Livesley (1986) suggested that pathological detachment would be better conceptualized as a continuum not divisible into discrete subcategories, but differentiated on the basis of the individual's desire for social relationships. In this perspective schizoid pathology would represent one end of the spectrum, a form of detachment characterized by aversion to social contact, and avoidant pathology would represent the other end of the spectrum, reflecting withdrawal motivated by fears of social rejection.

Controversy notwithstanding, Millon's (1986) distinction between schizoid and avoidant PDs has continued in the DSM-5 (American Psychiatric Association, 2013), and in other diagnostic systems as well (e.g., the International Classification of Diseases [ICD-10]; World Health Organization, 2004). The essential feature of schizoid PD in DSM-5 is "a pervasive pattern of detachment from social relationships and a restricted range of expression of emotion" (American Psychiatric Association, 2013, p. 652). In addition, the schizoid individual is described as neither desiring nor enjoying close relationships, having few friends, typically choosing to engage in solitary activities, expressing minimal interest in sexual activity, indifferent to positive and negative evaluation from others, and as showing constricted affect and lack of social reciprocity. The essential feature of avoidant PD is "a pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation" (American Psychiatric Association, 2013, p. 672). In addition, the avoidant individual is described as being overly sensitive to negative evaluation, only participating in social relationships if they are assured of being accepted, and being socially withdrawn and inhibited due to fears of being embarrassed in the presence of others.

Despite the controversy over the validity and clinical utility of separate avoidant and schizoid PDs, few studies have contrasted individuals with schizoid versus avoidant features on variables theoretically relevant to their differential diagnosis. Moreover, research contrasting schizoid and avoidant individuals has yielded inconclusive results. For example, Mittal, Kalus, Bernstein, and Siever (2007) summarized data from studies reporting PD co-morbidity and found schizoid-avoidant co-morbidity rates to

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range from 10% to 88%. Meyer, Pilkonis, and Beevers (2004) found the correlation between schizoid and avoidant dimensional symptom scores to be modest in magnitude (r = .16); a slightly larger correlation (r = .23) was obtained by Morse, Robins, and Gittes-Fox (2002) in a mixed sample of psychiatric patients.

Other studies examining overlapping trait patterns in schizoid and avoidant patients have also yielded mixed results. For example, Widiger, Trull, Clarkin, Sanderson, and Costa (2002) found that both schizoid PD and avoidant PD loaded negatively on the Five Factor Model (FFM) Extraversion factor, but avoidant PD also loaded positively on the Neuroticism factor whereas schizoid PD did not. Using a structured diagnostic interview for PDs in a community sample, Ullrich et al. found that both schizoid PD and avoidant PD dimensional symptom scores were negatively correlated with a factor labeled "successful intimate relationships". Along somewhat different lines, Morse et al. (2002) found that schizoid PD and avoidant PD dimensional symptom scores were positively correlated with scores on measures of autonomy (r's were .30 and .45, respectively); only avoidant PD scores were significantly related to sociotropy (r = .47; r for schizoid PD scores was −.06).

2. The present study

Given inconsistent findings in this area, and continued interest in understanding the degree to which schizoid and avoidant PDs represent separate disorders, or may be better conceptualized as variants of a single syndrome, the present study contrasts personality test scores of nonclinical participants with schizoid versus avoidant features on an array of salient variables. Dimensions purported to distinguish schizoid and avoidant PD were identified through review of the clinical and empirical literature, and a subset of variables was selected as core defining characteristics of each syndrome. These were rejection sensitivity (Downey & Feldman, 1996), need to belong (Leary, Kelly, Cottrell, & Shreindorfer, 2013), social anhedonia (Mishlove & Chapman, 1985), attachment style (Wei, Russel, Mallinckrodt, & Vogel, 2007), internalized shame (Cook, 1991), empathy (Spreng, McKinnon, Mar, & Levine, 2009), and defense style. General patterns in the literature with respect to these core features in schizoid versus avoidant PD may be summarized as follows:

2.1. Attachment style and need to belong

Individuals with schizoid PD have been conceptualized as lacking basic affiliative needs whereas individuals with avoidant PD have been viewed as possessing strong needs for support and social acceptance (Triebwasser et al., 2012). Therefore, attachment style and need to belong should differ in schizoid and avoidant individuals.

2.2. Rejection sensitivity and internalized shame

Individuals with avoidant PD have been conceptualized as being hypersensitive to rejection, shame, and embarrassment; individuals with schizoid PD are conceptualized as being indifferent to social feedback (Triebwasser et al., 2012). Thus, rejection sensitivity and internalized shame should differ in schizoid and avoidant individuals.

2.3. Empathy

Contemporary views of schizoid PD indicate that a deficit in the capacity for mentalization is a core feature of this disorder, and lack of empathy has consistently been identified as a defining trait of schizoid PD in both the DSM-5 (American Psychiatric Association, 2013) and in trait-based models. In contrast, avoidant individuals are viewed as being highly sensitive to others' internal states and expressed emotions (see Ahktar, 1987).

2.4. Defense style

Psychodynamic accounts of schizoid PD and avoidant PD highlight defense style and the characteristic use of specific defense mechanisms as distinguishing features of these syndromes (Ahktar, 1987; McWilliams, 2006). Furthermore, psychiatric conceptualizations of schizoid PD (e.g., Triebwasser et al., 2012) place it among the schizophrenia-spectrum which implies greater psychiatric severity than avoidant PD, including greater use of the maladaptive defense style and decreased use of the adaptive defense style.

Thus, to the extent that schizoid and avoidant PDs actually represent distinct forms of personality pathology, then: (1) schizoid individuals should display significantly higher levels of social anhedonia, avoidant attachment, and maladaptive defense mechanisms than avoidant individuals; and (2) avoidant individuals should display significantly higher levels of rejection sensitivity, internalized shame, empathy, need to belong, anxious attachment, and adaptive defense mechanisms than schizoid individuals.

3. Method

3.1. Participants

Participants (N = 123) included male (N = 58) and female (N = 65) students (undergraduate and master-level) enrolled in psychology courses at Adelphi University (Mean age = 20.55, SD = 3.59, Range = 18–40). Participants were recruited from the Adelphi online experiment sign up system and received course credit for taking part. The Institutional Review Board (IRB) of Adelphi University approved the current study.

3.2. Measures

3.2.1. International Personality Disorders Examination Screening Questionnaire (IPDE-SQ)

The IPDE-SQ DSM-IV module (Loranger, 1999) is a 77-item, true–false, self-report measure of DSM-IV/DSM-5 PD symptoms used by the World Health Organization in large-scale epidemiological studies of PDs. Egan, Austin, Elliot, Patel, and Charlesworth (2003) reported significant correlations (r's ranged from .42 to .71) between PD diagnoses generated by the IPDE-SQ and PD diagnoses generated by psychiatric semi-structured diagnostic interview; reliability (alpha) coefficients ranged from .25 to .62. As with most PD questionnaires, several authors have reported that the IPDE-SQ generates high rates of false positives but low rates of false negatives relative to diagnostic interviews (Egan et al., 2003).

3.2.2. Experiences in Close Relationships Scale—Short Form (ECR-SF)

The ECR-SF (Wei et al., 2007) is a 12-item self-report scale of adult attachment. It measures two core dimensions: attachment anxiety and attachment avoidance. The subscales of the ECR-SF are comprised of six items each. Each item is scored on a 7-point scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). The attachment anxiety and avoidance subscales showed expected associations with measures of intimacy fears and need for reassurance as well as emotional and social detachment (Wei et al., 2007). Wei et al. (2007) reported retest reliability coefficients for the ECR-

SF avoidance and anxiety subscales ranging from .80 to .89. Coefficient alphas in the current study were 0.78 and 0.78.

3.2.3. Toronto empathy questionnaire

The TEQ (Spreng et al., 2009) is a brief self-report measure of empathy that was generated from factor analyses of all available self-report measures of this construct. The TEQ consists of 16-items scored on a frequency scale ranging from 0 (*never*) to 4 (*always*). TEQ scores correlate as expected with self-report scales measuring the cognitive components (*r*'s ranged from .29 to .35) and the emotional components (*r*'s ranged from .71 to .74) of empathy. The TEQ showed good internal consistency (alpha = .87), and good retest reliability ($r = .81$) over a period of 2 months (Spreng et al., 2009).

3.2.4. Internalized Shame Scale (ISS)

The ISS (Cook, 1991) is a 30-item self-report measure of trait shame, also referred to as internalized shame. The ISS consists of 30 statements, with each item scored on a 5-point scale ranging from 1 (*never*) to 5 (*almost always*). The ISS was constructed to tap subjective experiences of alienation, worthlessness, inadequacy, and inferiority; it has shown excellent reliability across a number of studies in non-clinical samples (e.g., alpha = .96, Cook, 1991). Coefficient alpha in the current study was .95.

3.2.5. Rejection Sensitivity Questionnaire (RSQ)

The RSQ (Downey & Feldman, 1996) is a widely used 18-item self-report measure of rejection sensitivity. The scale consists of an index of the degree to which an individual expects social rejection as well as the degree to which an individual would experience distress over being rejected. Items on the expectation of rejection subscale are scored on a 6-point scale ranging from 1 (*very unlikely*) to 6 (*very likely*); those on the level of distress subscale is scored on a 6-point scale ranging from 1 (*very* unconcerned) to 6 (*very concerned*). According to Downey and Feldman (1996), both subscales should be combined to yield a total score representing overall rejection sensitivity. Downey and Feldman (1996) demonstrated that the RSQ was related to the tendency to construe ambiguous social behaviors as intentional acts of rejection; internal consistency (alpha) for the RSQ was .83. Coefficient alpha in the current study was .85.

3.2.6. Need to belong scale (NTBS)

The NTBS (Leary et al., 2013) is a 10-item self-report scale for assessing "desire for interpersonal attachments" (Pickett, Gardner, & Knowles, 2004, p. 1095). The NTBS is scored on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The scale was intended to measure the need to belong as a single, irreducible construct. In undergraduate samples high levels of reliability (alpha = .83, Pickett et al., 2004) have been established. The NTBS was minimally correlated with rejection sensitivity as assessed by the RSQ in undergraduates, and unrelated to measures of negative affect as well as verbal and math intelligence. Coefficient alpha in the current study was .74.

3.2.7. Revised Social Anhedonia Scale (R-SAS)

The R-SAS is a 40 item true–false scale for assessing social withdrawal due to lack of desire for relationships (Kwapil, 1998). Bailey, West, Widiger, and Freiman (1993) established good convergent and discriminant validity for the R-SAS.

3.2.8. Defense Style Questionnaire (DSQ)

The DSQ (Bond, Gardner, & Christian, 1983) is an 88-item questionnaire that assesses the tendency to use various clusters of defense mechanisms, or defense styles that exist at different levels of functionality, spanning the spectrum from normal to severe. For example, maladaptive/immature defenses refer to dissociation, acting out, and isolation whereas adaptive/mature defenses refer to humor, suppression, and anticipation. Each DSQ item is scored using a 9-point scale, yielding a single score for each defense style. Originally conceived as comprised of four subscales, each measuring a different defense style, more recent research evaluating the DSQ has demonstrated that its psychometric properties improve when scored using three rather than four dimensions: (a) adaptive, (b) neurotic, and (c) maladaptive defense styles (see Andrews, Singh, & Bond, 1993). In the present study, the DSQ was scored using the three-factor solution as this is the most widely used and well-validated scoring rubric (see e.g., Kwon & Olson, 2007). The neurotic sub-factor was conceptualized to refer to defenses such as idealization and pseudo-altruism that exist at an intermediate level of adaption between healthy/mature and dysfunctional/immature. Because of the lack of conceptual clarity regarding neurotic level defenses and their measurement, only the maladaptive and adaptive defense style scales were used. Coefficient alpha for the maladaptive/immature subscale was .90 in the current study; that for the adaptive/mature subscale was .67.

3.3. Procedure

Participants arrived at the laboratory and were greeted by an experimenter. After obtaining informed consent, the experimenter handed out the packet of measures, which were completed in counterbalanced order. The experimenter instructed participants to notify him if they had any questions or concerns while filling out the questionnaires. The experimenter remained in the lab while participants filled out the questionnaires, which took approximately 50 min.

4. Results

All correlational and regression analyses were conducted using the entire sample of 65 women and 58 men. Preliminary analyses confirmed that there were no differences between undergraduate and master students on the schizoid or the avoidant IPDE scale (*t*'s ranged from 0.31 to −0.71, all *p*'s > .05).

4.1. Differential predictors of schizoid and avoidant features

To test the primary hypotheses, separate hierarchical regressions were conducted for the avoidant and the schizoid measures, using as control variables in the first step gender and the counterpart measure and in the second step defense style, attachment style, need to belong, empathy, rejection sensitivity, social anhedonia, and internalized shame. These are summarized in Tables 1 and 2. Social anhedonia was the only variable uniquely related to schizoid features, (*Beta* = 0.19, $p < .05$). In contrast, need to belong (*Beta* = 0.25, $p < .05$) and internalized shame (*Beta* = .28, $p < .05$) were the only unique predictors of avoidant PD features. Predictors accounted for 32% and 45% of the variance in the schizoid and avoidant scales, respectively.

4.2. Gender differences in correlational patterns

IPDE-SQ schizoid scores were positively correlated with avoidant scores in women ($r = .48$, $p < .001$), but not in men ($r = .21$, NS). Focused comparison of effect size revealed that the schizoid PD—avoidant PD score correlation differed across gender ($Z = 1.62$, $p < .05$): Schizoid and avoidant features were more strongly intercorrelated in women than in men.

Gender differences in IPDE-SQ—outcome measure correlations were examined to ascertain whether the correlates of schizoid

Table 1
Hierarchical regression predicting IPDE-SQ schizoid PD scores.

Predictor	IPDE-SQ schizoid score	
	Change in R^2	Beta
Step 1	.13***	
Control variables		
Step 2	.20**	
Social anhedonia		**.19***
Need to belong		−.18
Empathy		−.01
Internalized shame		.13
Rejection sensitivity		.02
Attachment anxiety		−.16
Attachment avoidance		.16
Immature defense style		−.00
Mature defense style		.04
Total R^2		.32**

Note: Control variables were gender and IPDE-SQ avoidant PD score. Two extreme outliers were removed prior to data analysis (that is, participants with scores <−4.0 SD or >4.0 SD from the mean on any scale), resulting in an N of 121. Variables in bold uniquely predict IPDE-SQ schizoid scores ($p < .05$).
* $p < .05$.
** $p < .01$.
*** $p < .001$.

Table 2
Hierarchical regression predicting IPDE-SQ avoidant PD scores.

Predictor	IPDE-SQ avoidant score	
	Change in R^2	Beta
Step 1		
Control variables	.13***	
Step 2	.32***	
Social anhedonia		.01
Need to belong		**.25***
Empathy		.01
Internalized shame		**.28***
Rejection sensitivity		.09
Attachment anxiety		.04
Attachment avoidance		−.05
Immature defense style		.08
Mature defense style		.13
Total R^2	.45***	

Note: Control variables were gender and IPDE-SQ schizoid PD score. Two extreme outliers were removed prior to data analysis (that is, participants with scores <−4.0 SD or >4.0 SD from the mean on any scale), resulting in an *N* of 121. Variables in bold uniquely predict IPDE-SQ schizoid scores ($p < .05$).
* $p < .05$.
** $p < .01$.
*** $p < .001$.

and avoidant PD scores differed across gender. These results are summarized in Table 3. Among women schizoid PD symptoms were positively associated with attachment avoidance, social anhedonia, rejection sensitivity, and internalized shame. Among men schizoid PD symptoms were positively associated with immature defense style and social anhedonia, and negatively associated with empathy and need to belong. Focused comparisons of effect size revealed that schizoid PD—outcome measure correlations differed across gender for four domains: anxious attachment, rejection sensitivity, empathy, and need to belong (*Z*'s were 2.10, 2.42, 1.63, and 2.36, respectively).

Among women avoidant PD symptoms were positively associated with mature and immature defense styles, attachment anxiety, social anhedonia, rejection sensitivity, need to belong, and internalized shame. Among men avoidant PD symptoms were positively correlated with immature defense style, attachment anxiety, rejection sensitivity, and internalized shame. Focused comparisons of effect size revealed that avoidant PD—outcome measure correlations differed across gender for three domains: anxious attachment ($p < .06$), social anhedonia, and need to belong (*Z*'s were 1.53, 1.66, and 1.66).

5. Discussion

High levels of social anhedonia were uniquely predictive of schizoid features; high levels of need to belong and internalized shame were uniquely predictive of avoidance. It is important to note that the Beta of the sole predictive variable of schizoid features – social anhedonia – was very low (.19), partially consistent with the DSM's categorization of schizoid and avoidant PDs. Even though it was weakly predictive of schizoid scores, the finding regarding social anhedonia is consistent with the DSM's conceptualization of the lack of desire for social relationships as distinguishing schizoid dynamics from avoidant dynamics. Accordingly, the present findings provide preliminary empirical support for continuing to separate schizoid PD and avoidant PD in future versions of the DSM.

However, this conclusion should be qualified insofar as IPDE-SQ scores were significantly intercorrelated in women, but not in men. Women appear to show more of a blended schizoid–avoidant profile, whereas men display the more prototypical categorical profile where either schizoid or avoidant features predominate. Analysis of frequency data in the present study supports this conclusion: Eleven out of sixty-three women (17.5%) scored above the median on both the schizoid and avoidant PD subscales. In contrast, six out

Table 3
Correlations between IPDE-SQ schizoid and avoidant scores and scores on outcome measures.

Measure	Correlation with IPDE-SQ schizoid score			Correlation with IPDE-SQ avoidant score		
	Women	Men	*Z*	Women	Men	*Z*
ECR-SF ANX	.18	−.22	2.10*	.54***	.30	1.53
ECR-SF AVO	.41**	.33*	0.48	.23	.08	0.80
TEQ	.01	−.30*	1.63*	−.04	−.18	0.73
ISS	.38**	.23	0.84	.62***	.53	0.69
RSQ	.38**	−.07	2.42**	.47*	.29	1.10
NTBS	.07	−.37**	2.36**	.52***	.25	1.66*
RSAS	.41**	.58***	0.88	.31*	−.10	1.66*
DSQ-IMM	.25	.30*	0.27	.54***	.39	0.95
DSQ-MAT	.16	−.01	0.89	.29*	.19	0.55

Note: Z values represent focused comparisons of effect size contrasting IPDE-SQ—outcome measure correlations in women and men. Scale acronyms are in Table 1 note. Two extreme outliers were removed prior to data analysis (that is, participants with scores <−4.0 SD or >4.0 SD from the mean on any scale), resulting in an *N* of 121.
Women scored higher than men on empathy ($t = -4.44$, $p < .01$, $d = 0.73$), and lower than men on mature defense style ($t = 2.23$, $p < .05$, $d = 0.42$); there were no other statistically significant sex differences on any outcome variables.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

of fifty-eight men (10.4%) scored above the median on both the schizoid and avoidant PD subscales. One possible explanation for the observed gender differences is the restricted range of the two scores due to the fact that the sample is non-clinical. It is also possible that schizoid traits are more prototypically masculine (e.g., loner, emotionless, uninterested in social relationships) whereas avoidant traits are more stereotypically feminine (e.g., hypersensitivity, desire for social relationships). Although generalizing beyond the present sample must be done with caution, it is nonetheless worth noting that in both the DSM-5 (American Psychiatric Association, 2013) and ICD-10 (World Health Organization, 2004), no formal distinctions are made regarding the differential expression of PDs in women and men, despite evidence suggesting that myriad forms of personality pathology (e.g., antisocial, histrionic, dependent, narcissistic) are manifested in different ways across gender. It may be that future versions of the diagnostic manuals should delineate separate sets of symptoms for women and men, at least for certain PDs.

The present findings extend previous research in this area in several ways. For example, Meyer et al. (2004) found that DSM-IV schizoid PD and avoidant PD dimensional scores were significantly linked with attachment avoidance (r's were .16 and .22, respectively). In the present study this pattern was replicated; however, the size of the correlation was substantially larger for schizoid PD (r = .37). In line with results from prior research (Meyer et al., 2004), the current study also found significant links between avoidant PD and anxious attachment (r = .43) but no relationship between schizoid PD and anxious attachment (r = −.02). The different correlational patterns involving attachment avoidance and anxiety suggest that attachment avoidance is a shared underlying dimension of both syndromes whereas attachment anxiety is uniquely associated with avoidant PD.

All studies have limitations, and this one is no exception. Use of a larger sample might have strengthened the conclusiveness of the present results as eight questionnaires totaling 291 items were completed by 123 participants, reducing power. Furthermore, exclusive reliance on self-report scales makes the present study susceptible to participant self-perception and self-presentation bias; it has been suggested that individuals with personality disorders are particularly likely to respond inaccurately to self-report questionnaires (see Huprich, Bornstein, & Schmitt, 2011). While one prior study (Egan et al., 2003), reported low reliability (alpha = .25–.62) for the IPDE-SQ subscales, it is important to note its consideration as a gold-standard PD screening questionnaire by the WHO as well as its frequent use in prior research (e.g., Rossier & Rigozzi, 2008).

Although replication of these results in a clinical sample is certainly warranted, it is worth noting in this context that the less stringent participant selection criteria used in this investigation likely worked *against* our obtaining significant group differences on salient outcome measures. Put another way, if key dimensions differentially predicted schizoid and avoidant scores, these links would likely be greater if participants with more severe personality pathology were examined (see Hopwood et al., 2013; Horvath & Morf, 2009; and Taylor & et al., 2007, for examples of similar PD studies using nonclinical participants).

Finally, the present data indicate that when schizoid and avoidant PDs are conceptualized as dimensional constructs, traits theoretically consistent with their differential diagnosis uniquely predict schizoid and avoidant PD scores in a manner that supports their distinctiveness. Future editions of the DSM should retain schizoid PD and avoidant PD as separate entities. In addition, both schizoid PD and avoidant PD would be better conceptualized as falling under the broad dimension of social isolation rather than as being in separate PD clusters in future versions of the manual.

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