

THE RELATIONS AMONG SPIRITUALITY AND
RELIGIOSITY AND AXIS II FUNCTIONING IN TWO
COLLEGE SAMPLES

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ABSTRACT

Although there is a large literature linking religious and spiritual constructs to a wide range of mental and physical health outcomes, much less work has been done examining how the numinous relates to psychopathology, especially with regards to characterological impairment. The purpose of this report was twofold: (a) to examine how religious sentiments and spiritual motivations link with Axis II constructs, and (b) to evaluate the causal direction of that relationship. Two college student samples (a total of 591 women and 194 men) completed the *Schedule for Nonadaptive and Adaptive Personality* and the *Structured Clinical Interview for DSM-IV Disorders Questionnaire*, measures of Axis II characteristics. Scores on these instruments were related to the numinous scales of the *Assessment for Spirituality and Religious Sentiments*. It was found that spirituality was independent of the Axis II constructs while scores on the Religious Crisis scale evidenced significant overlap, even after controlling for personality. Structural Equation Modeling indicated that the model that posited Religious Crisis as a causal predictor of Axis II functioning was superior to models that hypothesized Religious Crisis as being caused by personality and psychopathology. The implications of these findings were discussed.

There is a large and growing body of literature examining the relations between spiritual and religious variables (numinous constructs) and a wide range of mental and physical health outcomes. The results of such investigations are creating a growing recognition of the positive value of numinous variables on psychosocial flourishing. Little research, however, has been devoted to an examination of spirituality's relation to psychological dysfunction, especially the more pervasive and chronic disorders associated with Axis II pathology. Given that spirituality has been shown to be independent of personality (e.g., Piedmont, 2001),

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should spirituality have any relation with the personality disorders? If so, what aspects of spirituality are related and in what ways? The goal of this study was to shed light on if and how spiritual and religious constructs are related to the chronic and pervasive character disorders. However, it is first necessary to define religiosity and spirituality.

DEFINING AND MEASURING RELIGIOSITY AND SPIRITUALITY

Despite widespread usage, the terms “spirituality” and “religiosity” do not have a universally accepted definition (e.g., Miller & Thoresen, 2003). Scott (cited in Hill et al., 2000) identified 31 different definitions of religiousness and 40 for spirituality, which she classified into nine different content areas (e.g., experiences of connectedness, systems of thought or beliefs, and capacities for transcendence). When the same term is used to define different concepts, clarity of understanding cannot be reached. Because spirituality and religiosity are seen by many as being conceptually overlapping, in that both involve a search for the sacred (e.g., Hill & Pargament, 2003), some researchers prefer to interpret these two dimensions as being redundant (e.g., Zinnbauer, Pargament, & Scott, 1999). Nonetheless, there are those who emphasize the distinctiveness between these two constructs (e.g., Piedmont, 2001; Piedmont & Leach, 2002). The conceptual confusion surrounding these two terms is reflected in numerous studies where multiple measures are glued together into a single instrument in an effort to ensure that both constructs are included. Seeman, Dubin, and Seeman (2003) have explicitly called for future research to “disaggregate” these two terms so that they may be differentially related to outcomes of interest.

For the purposes of this study, spirituality is viewed as an attribute of an individual (much like a personality trait) while religiosity is understood as encompassing more of the beliefs, rituals, and practices associated with an institution (Miller & Thoresen, 1999). Religiosity is concerned with how one’s experience of a transcendent being is shaped by, and expressed through, a community or social organization. Spirituality, on the other hand, is most concerned with one’s personal relationships to larger, transcendent realities, such as God or the Universe.

The *Assessment of Spirituality and Religious Sentiments* (ASPIRES; Piedmont, 2004a) was developed to provide an assessment tool that captured these constructs in a manner that appreciated these differences. The ASPIRES contains measures of both of these constructs.

The Spiritual Transcendence Scale (STS) operationalized spirituality from a trait perspective (see Piedmont, 2001). Spirituality was defined as an intrinsic motivation of individuals to create a broad sense of personal meaning within an eschatological context. In other words, knowing that we are going to die, spirituality represents our efforts to create meaning and purpose for our lives. This need for meaning is seen as an intrinsic, universal human capacity (see Piedmont & Leach, 2002). Religiosity, on the other hand, was viewed as a “sentiment,” a learned, emotional tendency that develops out of social traditions and educational experiences. Sentiments are not innate genotypic qualities (like traits), and therefore their expression can vary across contexts and are more amenable to change and modification. The ASPIRES has two measures of religiosity: the Religious Involvement Scale, which assesses the degree to which an individual is involved in the rituals and practices of a specific faith tradition; and the Religious Crisis Scale, which examines the extent to which “a person may be experiencing problems, difficulties or conflicts with the God of their understanding and/or their faith community” (Piedmont, 2004a, p. 4).

Researchers using the ASPIRES have accumulated a large amount of validity evidence (Piedmont, 2001; 2004a). The STS shows structural and predictive validity that generalizes across denominations and cultures (Goodman, Britton, Shama-Davis, & Jencius, 2005; Piedmont, *in press*; Piedmont & Leach, 2002). The scale was developed within the context of the Five-Factor Model of Personality (FFM) in an effort to capture aspects of spirituality that were nonredundant with these established personality domains (Piedmont, 2001). As a result, the STS has been used to predict a wide array of psychosocially salient outcomes (e.g., attitudes towards sexuality, interpersonal style, well-being, psychological maturity) even after the predictive effects of the FFM were removed (Piedmont, 2006). Finally, research has shown that the STS’s unidimensional conceptualization of spirituality seems well founded (e.g., Piedmont, Mapa, & Williams, 2006). The Religiosity Scale contains items that are considered the standard for assessing religious involvement (see Piedmont, 2004a; Piedmont et al., 2006) and the scale has been a useful predictor of psychosocial outcomes (Piedmont, 2006). The Religious Crisis Scale captures aspects of religious community that are nonredundant with the other two ASPIRES scales (Piedmont et al., 2006), yet seems to capture aspects of distress in one’s relationship with the Transcendent. This scale reflects an attitudinal perception of the Transcendent, and one’s religious community, as being hostile and

rejecting. Like the other scales, Religious Crisis assesses aspects of the individual independent of personality and therefore reflects a rather unique perspective on intra- and interpersonal conflict. Thus the measures that form the heart of this research have an extensive empirical pedigree few other scales have (see Hill & Hood, 1999).

RELATIONS BETWEEN THE NUMINOUS AND DISTRESS

There is a rich and extensive network of research studies documenting the relation between religious and spiritual activity and enhanced mental, physical, and social functioning. Thoresen (1999) provided an overview of these findings and noted that those who were involved religiously and spiritually had: (a) higher levels of well-being and life satisfaction; (b) lower rates of depressive symptoms and suicide; (c) lower rates of divorce and greater levels of marital satisfaction; and (d) lower rates of alcohol and drug abuse. Piedmont (2004b) noted that levels of spirituality were predictive of therapeutic outcome in an outpatient substance abuse treatment program. Seeman et al. (2003) provided a critical review of the spiritual-religious/health linkage literature and found substantive support for concluding that involvement with the numinous is significantly linked to positive health-related physiological processes. Powell et al. (2003) noted in their review of the literature that among healthy individuals involvement in religious services provided a consistent, prospective reduction in risk for mortality. In their meta-analytic study, Sawatzky, Ratner, and Chiu (2005) noted a moderately strong relation ($r = .34$) between spirituality and Quality of Life. Finally, Piedmont (2006) demonstrated cross-culturally that spirituality and religiosity were positively related to well-being and psychological growth, even after controlling for the predictive effects of personality. Taken as a whole, the extant literature seems to convey a rather consistent effect for religious and spiritual constructs with general adaptive aspects of functioning.

The majority of research with numinous constructs has focused on general factors of well-being and life satisfaction. When research includes clinical dimensions, they are mostly affective in nature (e.g., depression, anxiety, hopelessness; e.g., Wink, Killon, & Larsen, 2005). Findings here support the positive relations between numinous constructs and affective dysphoria. In an epidemiologic survey of Canadians, Baetz, Griffin, Bowen, Koenig, and Maroux (2004) showed that

religious involvement was related negatively to depression. Wink et al. (2005), using a longitudinal community-based sample of adults born in the 1920s again indicated the value of religious involvement (as opposed to spirituality) for buffering the effects of depression. MacDonald and Holland (2003) examined the relations between measures of spirituality and religious involvement with the MMPI-2 scales. In general, involvement in religious activities and higher levels of spirituality were associated with lower levels of pathology. However, these studies did not attempt to examine causal hypotheses regarding how religious variables may affect or be affected by these clinical dimensions. Interestingly, both studies found that religious involvement was a better predictor than spirituality.

Very little research has been done examining how explicit psychopathologic variables (e.g., symptom dimensions, diagnostic criteria) are related to spiritual and religious constructs. Compton and Furman (2005) examined the relations between symptom scores and spiritual well-being in a sample of African-American patients with a first-episode schizophrenic disorder. Consistent with the literature for nonclinical samples, there was a negative correlation between these two sets of constructs. Carrico et al. (2006) applied a path model to examine the role of spirituality on depressive symptoms in HIV-positive persons. They found that a model specifying spirituality as a causal input (albeit an indirect effect) into the experience of depressive symptoms fit the data well. In contrast to the above research, both of these studies found spirituality negatively related to symptom experiences. Lavin (2001) employed a cross-lagged panel design to demonstrate in a sample of adults that negative images of God (i.e., high on Neuroticism and low on Agreeableness) led to higher self-ratings of symptomological distress over time. Although these studies provide support for the causal precedence of numinous constructs, it remains yet to determine the power of religious involvement and spirituality relative to each other in predicting symptom experience. Are both constructs equally related to psychopathology, or does one of them account for the majority of variance? This study will examine this issue by comparing the predictive contributions of each variable controlling for the other in explaining Axis II functioning.

Another feature of the research literature is that it treats numinous constructs as “inputs” into the psychic system, an implicit causal variable that can affect the course of symptom experience and expression (e.g., Compton & Furman, 2005). However, Hathaway (2003) has argued that

psychopathology can function to create clinically significant religious impairment. The onset of mental illness can impede a person's ability to reach religious and spiritual goals or experience religious states. This perspective views religion and spirituality as domains of general adaptation that can be adversely affected by psychopathology. The numinous here is seen as an "output" from the psychic system, an endogenous quality that is impacted by situational and characterological impairment. The output approach raises the larger, important conceptual issue about the causal nature of numinous constructs (see Piedmont, 2005, for a broader discussion of this issue). Are they aspects of functioning that can influence psychic stability and therefore be used as resources for clinical treatment? Are numinous processes sufficiently independent that they can develop their own unique aspects of pathology (e.g., Wagener & Malony, 2006)? Or, are they aspects of functioning that can be influenced by other internal factors (e.g., Hathaway, 2003; Rhi, 2001)?

Thus, another important question concerns the causal role of spirituality on mental illness. Can disturbances in our relationship with the Transcendent create intrapsychic conflicts? Does the development of mental illness undermine spiritual and religious strivings? Or are both processes occurring? Answers to these questions carry important conceptual implications for understanding the nature of the numinous and its role in the psychic system. Using Structural Equation Modeling (SEM), this study evaluated competing models of causal direction in an effort to provide data that can help answer these questions.

A final issue addressed by this study concerns Axis II pathology. As noted above, little research has been devoted to an examination of numinous constructs in the context of explicit psychopathological constructs. This is especially true regarding Axis II functioning. We have been unable to find any research that links characterological impairment to numinous functioning. Thus, this study represents a first look at how spiritual and religious sentiment scales relate to Axis II dynamics. Do these two sets of numinous variables have similar or different relations? Are these associations generalizable over different measures of Axis II functioning? Using two samples of college students and two different measures of personality pathology, this study aimed to address the following questions:

1. Would religious and spiritual constructs correlate with Axis II constructs, even after the controlling for the effects of personality?
2. Would both dimensions of the numinous (religious and spiritual

constructs) be related equally to Axis II constructs or is one more predictive?

3. Are the numinous constructs better construed as causally predictive of characterological functioning (Axis II) or are they better conceived as being dependent upon characterological functioning factors?

METHODS

Participants

Sample 1: Participants included 443 students from a Midwestern state university who were aged 17 to 29 years (mean age of 18.8 yrs). Approximately 73% of the participants were female, and concerning ethnicity, 87% were Caucasian, 8% were African-American, and 3% were Hispanic. Both Asian-Pacific Islander and "Other" accounted for 1% each of the participants, and less than 1% indicated an ethnicity of Middle Eastern. All participants completed informed consent forms and received class credit for participation in the study.

Sample 2: Participants consisted of 342 student volunteers from a Midwestern state university. The age of the participants ranged from 18 to 34 years (mean age of 18.9 years). Females comprised the bulk of survey respondents at 78.4%. Ethnicity revealed that 95% of survey respondents were Caucasian, 2% were Asian, 2% were African-American, and 1% were Hispanic. Three participants (.9%) described their race as "Other." All participants completed informed consent forms and received class credit for participation in the study.

Measures

Assessment of Spirituality and Religious Sentiments (ASPIRES): Developed by Piedmont (2004a), the ASPIRES measures two broad numinous dimensions. The first is Religious Sentiments, which examines the extent to which an individual is involved in and committed to the religious practices outlined by his or her faith tradition. There are two scales in this domain: the Religiosity Index, an 8-item scale that queries the extent to which the person prays, reads religious literature, attends services, and values his or her religious beliefs. Answers to these questions are provided on Likert-type scales of various formats. The second scale is Religious Crisis, a 4-item measure examining the extent to which an individual feels isolated from God and his or her

faith community. Responses are made on a 5-point, Likert-type scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). The second dimension measured by the ASPIRES is Spiritual Transcendence (ST). ST represents a motivational construct that reflects an individual's efforts to create a broad sense of personal meaning for his or her life. ST is a universal capacity to stand outside of one's own immediate existence and to view life from a broader, more integrated whole. This 23-item scale contains three facet scales: Prayer Fulfillment (the ability to feel a positive connection to some larger reality), Universality (the belief in a larger meaning and purpose to life), and Connectedness (feelings of belonging and responsibility to a larger human reality that cuts across generations and groups). Piedmont (2004a) provides psychometric data on the scale with alpha reliabilities ranging between .89 for the total ST score and to .89 and .75 for the Religiosity Index and Religious Crisis scales, respectively. This measure was completed by all participants.

Bipolar Adjective Rating Scale (BARS): Developed and validated by McCrae and Costa (1985, 1987), this 80-item scale is designed to capture the Five-Factor Model personality domains (FFM) of adult personality, namely, Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. The responses to the scale have been shown to be reliable and structurally valid with college students (Piedmont, 1995). Responses are measured on a 1- to 7-point Likert-type scale, and FFM domain scores are found by summing the responses to items for each domain. This scale was completed by all participants.

Schedule for Nonadaptive and Adaptive Personality (SNAP): Developed by Clark (1993), this self-report instrument contains 375 true/false items which are designed to assess trait dimensions important in the domain of personality disorders. It includes 13 diagnostic scales that reflect the Axis II disorders: paranoid, schizoid, schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent, obsessive-compulsive, passive-aggressive, sadistic, and self-defeating. It also includes 15 temperament scales that assess both traits (mistrust, manipulateness, aggression, self-harm, eccentric perceptions, dependency, exhibitionism, entitlement, detachment, impulsivity, propriety, and workaholism) and three temperaments (negative temperament, positive temperament, and disinhibition). Alpha reliabilities for responses to the trait and temperament scales in college students range from .77 for workaholism to .90 for the negative temperament domain (median = .81). For the diagnostic scales, alphas for college students range from .53 for obsessive-compulsive to .82 for antisocial (median = .72). Sample 1 completed this scale.

Structured Clinical Interview for DSM-IV Personality Disorders Questionnaire (SCID-I/P): Developed by First, Gibbon, Spitzer, Williams, and Benjamin (1997), this scale contains items that are the diagnostic criteria for the 12 different Axis II categories. Of the 133 items, 118 are responded to on a Likert-type scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). The remaining 15 items are responded to on a simple Yes/No scale. The one addition we made to this instrument concerned the Antisocial Personality Disorder subscale. The screener questionnaire uses only items that pertain to the respondent's life prior to age 15 (the 15 Yes/No items). However, we have found that this manner of presenting the Antisocial items may not be psychometrically useful (Piedmont & Sherman, 1998). As such, we added additional DSM-IV diagnostic items that pertain to adult behavior as well. Thus, there are two Antisocial subscales used in this study, one that focused on behavior prior to age 15 (and used the Yes/No format), and another that focused on adult behavior (and used a Likert-type format). Piedmont, M. Sherman, N. Sherman, and Williams (2003) have found this instrument to be reliable and valid in both college student and adult clinical samples. Reliabilities for the 13 scales ranged (among college students) from .53 (Obsessive-Compulsive) to .86 (Borderline), with a mean alpha of .74. Sample 2 completed this scale.

Procedures

All participants completed materials in groups of between 5 and 25. Materials for this study were part of a larger project. The order in which scales were presented was randomized to control for order effects. Participants were volunteers and received course credit for their participation.

RESULTS

Table 1 presents descriptive information for both samples on the personality and spirituality scales. As can be seen, participants scored in the average range (T-scores between 45 and 55) on all scales indicating that the two samples are comparable and relatively representative.

In order to determine whether the ASPIRES scales were related to the Axis II constructs, a canonical correlation analysis (CCA) was performed using data from both samples. For Sample 1, the five ASPIRES scales (not including the total Spiritual Transcendence score) were linked with

Table 1. *Descriptive Statistics on the BARS and ASPIRES Scales for All Subjects*

Scale	Study 1 (N = 443)			Study 2 (N = 342)		
	Mean	SD	α	Mean	SD	α
<i>Personality Scales</i>						
Neuroticism	49	8.69	.74	49	8.59	.73
Extraversion	50	9.20	.77	51	8.74	.76
Openness	47	10.22	.70	48	10.24	.66
Agreeableness	50	7.92	.78	51	8.48	.71
Conscientiousness	47	10.76	.82	47	9.98	.80
<i>ASPIRES Scales</i>						
Prayer Fulfillment	50	9.94	.93	49	9.64	.93
Universality	48	9.58	.74	47	10.48	.70
Connectedness	47	10.46	.40	47	9.23	.56
Total Spiritual Transcendence	52	10.44	.89	51	10.31	.89
Religiosity Scale	51	10.11	.87	51	10.52	.85
Religious Crisis Scale	50	10.95	.79	50	9.97	.82

Note. Scores are presented as T-scores with a Mean of 50 and SD of 10, based on normative data (Piedmont, 1995 for BARS, Piedmont, 2004 for ASPIRES).

the 13 Axis II scales from the SNAP. A statistically significant overall effect is found, Wilks lambda = .68, multivariate $F(65, 2064.40) = 2.68$, $p < .001$. This results in an overall canonical correlation between the two sets of scores of $R_c = .56$. In order to interpret these relations, zero-order and partial correlations between the ASPIRES scales and the Axis II scales of the SNAP are presented in Table 2. A number of statistically significant associations emerge, even after controlling for the predictive effects of personality. Two important trends emerge in these data. First, in examining the Spiritual Transcendence Scales and the Religiosity Index, it is clear that the magnitudes of these associations are low (all zero-order values are below .20). The number of associations is also somewhat constricted, with only 25 of the 65 correlations (38%) statistically significant. This number decreases to 14% (9/65) when controlling for personality. Spirituality seems to have a very circumscribed relation with Axis II constructs. Where there is a relation, though, spirituality is mostly negatively related, suggesting that spirituality is not associated with maladaptive traits. Exceptions are with

Table 2. *Strength of the Relationship Between the SNAP Axis II Measures and Spirituality Zero-Order Correlations and Partial Correlations Controlling for Personality (in parentheses)*

ASPIRES Scale						
SNAP Scale	Prayer Fulfillment	Universality	Connected-ness	Total Score	Religiosity	Religious Crisis
Paranoid	-.10*	-.08	.02	-.09	-.08	.24***
	(-.05)	(-.02)	(.06)	(-.02)	(-.02)	(.18)***
Schizoid	-.13**	-.14**	-.11*	-.16***	-.07	.11*
	(-.08)	(-.12)*	(-.04)	(-.10)*	(-.03)	(.13)**
Schizotypal	-.09	-.05	.06	-.06	-.06	.25***
	(-.03)	(-.02)	(.10)*	(.00)	(-.01)	(.20)***
Antisocial	-.12*	-.09	-.10*	-.14**	-.12*	.20***
	(-.07)	(-.05)	(-.08)	(-.09)	(-.07)	(.13)**
Borderline	-.15**	-.09	.05	-.12*	-.13**	.24***
	(-.09)	(-.05)	(.08)	(-.06)	(-.08)	(.15)**
Histrionic	.08	.11*	.12*	.13**	.05	.04
	(.08)	(.11)*	(.07)	(.11)*	(.04)	(-.02)
Narcissistic	.04	.11*	.08	.08	.04	.07
	(.07)	(.12)*	(.08)	(.10)*	(.07)	(.01)
Avoidant	-.13**	-.08	-.00	-.12*	-.09	.10*
	(-.11)*	(-.05)	(.04)	(-.08)	(-.06)	(.09)
Dependent	.01	.01	.08	.03	-.07	.11*
	(.03)	(.03)	(.07)	(.05)	(-.05)	(.04)
Obsessive-Compulsive	-.00	.02	.03	.01	-.03	.12*
	(.04)	(.04)	(.05)	(.06)	(.00)	(.07)
Passive-Aggressive	-.12*	-.08	.04	-.10*	-.18***	.16***
	(-.09)	(-.04)	(.05)	(-.06)	(-.16)**	(.11)*
Sadistic	-.06	-.12*	-.03	-.09	.01	.12*
	(-.02)	(-.07)	(-.02)	(-.04)	(.05)	(.07)
Self-Defeating	-.16**	-.09	.05	-.12*	-.12**	.27***
	(-.11)*	(-.04)	(.08)	(-.07)	(-.08)	(.21)***

$N = 443$. * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

histrionic and narcissistic traits, where there are positive associations. The second observation concerns the Religious Crisis scale, which has stronger and more pervasive associations with these Axis II constructs: 11 of 13 correlations are statistically significant (85%), even after controlling for personality (7/13, or 54% are statistically significant).

In order to examine the generalizability of these findings across samples and instruments, a similar set of analyses is conducted with Sample 2 and the SCID-IIP as the measure of Axis II constructs. The CCA between the ASPIRES scales and the SCID-IIP scales indicates

another overall statistically significant effect, Wilks lambda = .55, multivariate $F(65, 1554.01) = 3.28, p < .001$. This indicates a strong overall canonical correlation of $R_c = .67$ between the two sets of scores. In order to interpret these relations, Table 3 presents the zero-order and partial correlations. As can be seen, there are numerous statistically significant correlations between the ASPIRES scales and the measures of psychopathology: 41 of the 78 correlations (53%) are statistically significant. The pattern of correlations is similar to those in Table 2: 18 of the 28 comparable zero-order correlations are replicated here. As noted in Table 2, Religious Crisis was statistically significantly positively related with all measures of psychopathology; the remaining ASPIRES scales were all negatively correlated, even after controlling for personality. Thus, measures of spirituality and religious sentiments appear to have low to moderate associations with psychopathology, and these relations are not mediated by personality.

Regression Analyses

In order to determine the relative contribution of the spirituality and religious sentiment scales to predicting Axis II functioning, hierarchical multiple regression analyses were conducted within each sample. The dependent variable in these analyses was a composite index of the Axis II scales. This composite was created by submitting the SNAP and SCID-IIP scales separately to a principal components analysis and extracting a single factor. This factor represented the overlapping variance among all the scales. For the SNAP, the Axis II scales loaded from .33 (for histrionic) to .83 (for borderline) on this single factor. For the SCID-IIP, the scales loaded from .34 for the Antisocial scale (adolescent) to .83 for the Passive-Aggressive scale. Thus the individual scales from each Axis II instrument loaded significantly on their respective dimension.

On the first step of the regression analyses, the FFM personality domains were entered. On step 2, using a forward entry procedure, the three STS scales and two religious sentiments scales were entered. With regards to the SNAP scale, the FFM dimensions explained a significant amount of the variance ($R^2 = .18, F[5,437] = 18.98, p < .001$). The ASPIRES scales added significantly to the explained variance over personality ($\Delta R^2 = .03, \text{partial } F[1,436] = 13.48, p < .001$). An examination of the beta weights shows only the Religious Crisis ($\beta = .16, t[436] = 3.67, p < .001$) scale to be positively related to overall

Table 3. *Strength of the Relationship Between the SCID and Spirituality Showing Both Zero-Order Correlations and Partial Correlations Controlling for Personality (in parentheses)*

ASPIRES Scale						
SNAP Scale	Prayer Fulfillment	Universality	Connected-ness	Total Spiritual Transcendence	Religiosity	Religious Crisis
Paranoid	-.15** (-.05)	-.15** (-.07)	-.03 (.04)	-.15** (-.04)	-.19*** (-.07)	.28*** (.16)**
Schizoid	-.06 (-.01)	-.06 (-.03)	-.17** (-.13)*	-.10 (-.05)	-.01 (.03)	.19*** (.15)**
Schizotypal	.10 (.16)**	.12* (.15)**	.02 (.04)	.11* (.16)**	.02 (.08)	.22*** (.15)**
Antisocial-Adult	-.21*** (-.15)**	-.17** (-.11)*	-.08 (-.02)	-.21*** (-.14)**	-.31*** (-.25)***	.28*** (.21)**
Antisocial-Teen	.14* (.10)	.14** (.10)	.03 (-.01)	.15** (.10)	.19*** (.15)**	-.07 (-.03)
Borderline	-.17*** (-.11)	-.10 (-.06)	-.02 (.02)	-.15** (-.08)	-.24*** (-.17)**	.35*** (.26)**
Histrionic	.01 (.04)	.02 (.07)	-.01 (.01)	.01 (-.06)	-.07 (-.02)	.15** (.13)*
Narcissistic	-.07 (.01)	-.09 (-.01)	-.08 (-.04)	-.09 (-.01)	-.17** (-.09)	.25*** (.16)**
Avoidant	-.14* (-.11)*	-.10 (-.12)*	-.08 (-.10)	-.14** (-.14)*	-.12* (-.09)	.23*** (.16)**
Dependent	-.06 (-.02)	-.06 (-.05)	.00 (.00)	-.06 (-.03)	-.07 (-.02)	.15** (.07)
Obsessive-Compulsive	.13* (.18)***	.06 (.11)*	.04 (.03)	.11* (.16)**	.17** (.24)***	.05 (.00)
Passive-Aggressive	-.09 (.01)	-.09 (-.01)	-.04 (.00)	-.10 (.01)	-.15** (-.03)	.32*** (.22)**
Depressive	-.17** (-.10)	-.15** (-.14)*	-.10 (-.09)	-.19*** (-.14)**	-.18** (-.12)	.33*** (.23)**

$N = 342$. * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Axis II functioning. Concerning the SCID-IIP scales, again personality explained a significant amount of the variance in the composite ($R^2 = .30$, $F[5,340] = 28.40$, $p < .001$). The ASPIRES scales contribute an additional 5% of the predicted variance over personality ($\Delta R^2 = .05$, partial $F[1,339] = 24.51$, $p < .001$). An inspection of the beta weights shows that only the Religious Crisis scale is related to Axis II functioning ($\beta = .23$, $t[339] = 4.95$, $p < .001$).

Structural Equation Models

The next phase of analysis concerns the causal relations between the numinous scales and Axis II pathology. Figure 1 presents the three models of interest. Model 1 posits both personality and all five ASPIRES scales as causal predictors of Axis II functioning. Given the multiple regression results, where the STS scales were not significant predictors, it is expected that this model will not fit the data well. As such, it is anticipated that the pathway from the Spirituality dimension to the Axis II dimension will be nonsignificant. Model 2 is similar in nature to Model 1, except it posits that the pathway from Religious Sentiments (this latent dimension is defined by the Religious Involvement and Religious Crisis scales) will have a significant causal impact on Axis II functioning. The pathway from Personality to Axis II is also expected to be significant. This model is expected to provide the best fit of all three models. Finally, Model 3 reverses the order of causality. It will examine the extent to which Religious Sentiments are a by-product of both personality and levels of psychopathology.

Table 4 presents the results of these analyses for both measures of Axis II functioning.¹ There are three points of interest here. First, in examining the results of Model 1, pathways from the Spirituality dimension to Axis II were nonsignificant with both Axis II measures (SNAP, $\lambda = -.06$, $t[179] = 1.26$, $p = \text{ns}$; SCID-IIIP, $\lambda = -.03$, $t[198] = -.53$, $p = \text{ns}$). Consistent with the regression results, the STS scales do not provide any predictive power regarding Axis II functioning. Including them in this prediction model only served to compromise its predictive power. Second, when only the two Religious Sentiments scales are used, a better model fit is evidenced. The pathways from Religious Sentiments to Axis II are significant using both measures of functioning. The Akaike Information Criterion (AIC) is a measure of model fit that can be used to select among competing nonhierarchical models (as are these three models being tested here). The model with the *smallest* value is chosen as the one most likely to be replicated. This is the model with relatively better fit and fewer parameters compared with competing models. The AIC value for Model 2 is the smallest of the three, indicating that the data fit best the model where the direc-

¹ The covariance matrix used for these analyses is available upon request from the first author.

Table 4. *Comparison of Model Fits for Various Structural Equation Models*

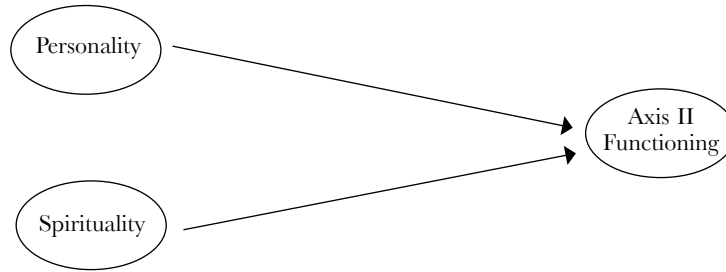
Model #	Model	df	X ²	RMSEA	SRMR	AI
<i>SNAP Axis II Scales</i>						
1.	Personality and All Numinous Scales as Causes of Axis II Functioning	179	685.36	.078	0.81	879.36
2.	Personality and Religious Sentiments Scales as Causes of Axis II Functioning	121	537.99	.086	.077	715.99
3.	Personality as Cause of Religious Sentiments and Axis II Functioning; Axis II as Cause of Religious Sentiments	122	567.17	.089	.091	743.17
<i>SCID-I/P Axis II Scales</i>						
1.	Personality and All Numinous Scales as Causes of Axis II Functioning	198	686.06	.047	.096	842.06
2.	Personality and Religious Sentiments Scales as Causes of Axis II Functioning	138	536.00	.047	.080	680.00
3.	Personality as Cause of Religious Sentiments and Axis II Functioning; Axis II as Cause of Religious Sentiments	141	592.31	.053	.10	730.31

RMSEA-Root Mean Square Error of Approximation; SRMR-Standardized Root Mean Square Residual; AIC-Akaike Information Criterion.

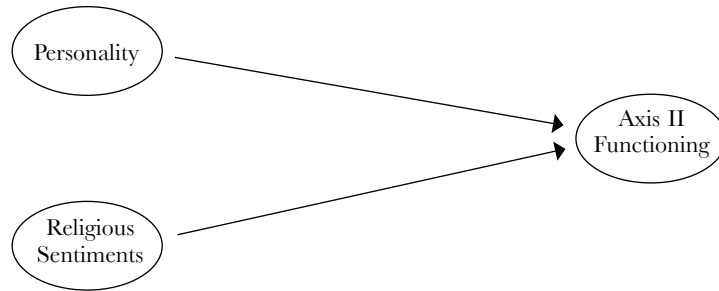
tion of causality goes from the numinous to dysfunction, not the other way around (as is depicted in Model 3). Finally, the pattern of findings is consistent across the two measures of Axis II functioning. Viewing Religious Sentiments as the causal predictor of pathology generates the best fitting model across these two different measures.

DISCUSSION

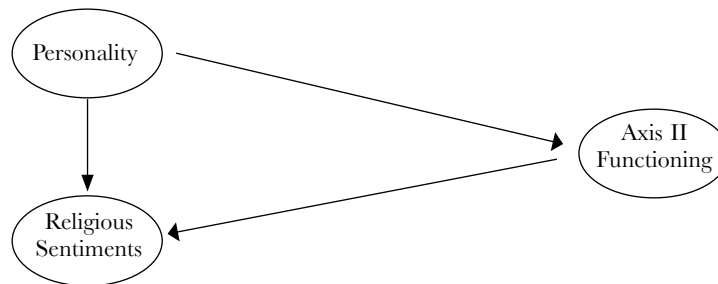
The results of this study present several points of interest. First, the pattern of findings between the spiritual and religious sentiments scales and psychopathology scales were consistent across the two different measures of Axis II constructs. Thus, we can be confident that the pattern of results is not atypical or a function of the specific Axis II measure used. Clearly, there are reliable associations between these two sets of constructs.



Model 1.



Model 2.



Model 3.

Figure 1. *Structural equation models relating numinous constructs to Axis II functioning*

Second, it is interesting to note that although the STS scales indicated some correlations with psychopathology, controlling for the religious sentiments scales essentially erased their effects. Spirituality does not seem to share much in common with characterological impairment. It appears that current conceptualizations of Axis II pathology do not include any dysfunction related to spiritual motivations. Given that spirituality has been conceptualized as a dimension of personality (e.g., Piedmont, 2001), and that the other major dimensions of personality have been linked to Axis II functioning (e.g., Saulsman & Page, 2004), it is possible that there may exist another class of personality disorders that may be linked to problems with spiritual motivations. Future research will need to explore what impaired spirituality may represent psychologically.

Third, the independence of spirituality from Axis II functioning raises the possibility that spirituality may serve as an important psychological resource for treatment of these conditions. Spirituality's lack of involvement in the pathognomic process suggests that these motivations may not be distorted or impaired. Thus, they may be able to provide a more realistically-based set of perceptions and beliefs. Keks and D'Souza (2003) discussed how spirituality and religious involvement can be a critical therapeutic resource for helping those with psychotic disorders. Numinous constructs can help individuals gain a sense of self and develop a better sense of personal support for themselves. Khalsa (2005) believes that psychospiritual interventions can be very effective for treating various Axis II disorders (e.g., Borderline, Narcissistic). Spirituality can help clients create for themselves an inner mental state that is dynamic, attractive, peaceful, and creative. Martens (2003) argued that spiritually-oriented psychotherapy could be a powerful intervention for antisocial and psychopathic personalities. Spirituality can be useful in promoting authenticity, moral and social capacity, and a greater faith in life. The findings of this study support such positive therapeutic views of spirituality.

Finally, the SEM analyses indicated that it was the Religious Crisis scale that had the causal impact on psychopathology. Clearly, disturbances in one's relationship with a Transcendent Being has important causal implications for one's psychological stability (e.g., Lavin, 2001). It is important to note that these relationship problems with the Transcendent are not a function of one's innate interpersonal style (qualities of personality), nor a function of interpersonal impairment due to the personality disorder dynamics. The predictive power of the Religious

Crisis scale was not mediated by these other related constructs. There appears to be something unique about the relationship with the Transcendent that impacts one's affective and cognitive processes.

The issue needs to be discussed whether an individual with clinically significant religious impairment (e.g., Hathaway, 2003) is suffering as a result of some type of pathology or rather if the religious impairment *is* the cause of the larger psychological difficulties. Understanding the causal direction between the numinous and psychological dysfunction has important theoretical, clinical, and treatment implications. The data to date, including those found in the current study, suggests that spirituality should not be seen as an endogenous, or dependent, variable; rather it is an exogenous, or independent, variable that moves and directs the flow of psychosocial adjustment (e.g., Dy-Liacco, Kennedy, Parker, & Piedmont, 2005; Lavin, 2001; Piedmont, 2006). Therefore, the development of psychospiritual intervention strategies that are aimed at accessing these qualities of the individual may hold the promise of a new class of therapies (e.g., Khalsa, 2005; Murray-Swank, 2003).

Limitations

Although the findings of this study are consistent with those reported from other studies in the literature, there are several caveats that need mentioning. First, the student samples used here are clearly limited in their generalizability. It is not clear whether a similar set of findings would be observed if an adult, or even patient, sample been used. More research is definitely needed that looks specifically at client-based samples. Second, given the clinical nature of the scales, score distributions may have been affected by floor effects, which in turn may reduce the magnitude of correlation between these scales and external criteria. Thus, the lack of strong findings between the STS and Axis II scales may be a function of the lowered power introduced by such restricted score ranges. Third, although these analyses are a useful first step in examining the relations between the numinous and Axis II functioning, there are certainly many other measures of Axis II constructs besides the two included here. Future research needs to determine levels and patterns of association with them as well. Finally, the SEM analyses employed here need to be supplemented with more explicit experimental designs. Longitudinal analyses that would follow both normal and clinical samples would be most helpful in determin-

ing whether the causal sequences identified here would be maintained in other contexts.

Conclusions

These findings show that numinous constructs (especially those relating to conflict in one's relationship to the Transcendent) have significant causal influences on Axis II characteristics. These findings are consistent with a growing literature that demonstrates the causal precedence of spirituality and religious involvement on a wide range of psychosocial outcomes (e.g., Dy-Liacco et al., 2005). When observing clients with significant religious impairment, it should be considered that this religious impairment may be provoking other aspects of dysfunction and not the other way around. This is an important finding that needs to be explored more in-depth both clinically and conceptually. Spirituality's independence from impairment opens the possibility for it to be seen as a potential therapeutic resource for treating those with Axis II difficulties. New treatment modalities may be possible that employ numinous qualities. Finally, spirituality's independence from impairment may also suggest the potential for a new class of personality disorders based on this motivation. The current system of Axis II disorders has been criticized on numerous grounds, including excessive redundancy. This creates a nosology that has insufficient breadth and is unable to classify all individuals with characterological impairment (Trull, 2005). A consideration of dysfunctional spirituality may help to expand the diagnostic inclusiveness of Axis II. However, what would constitute a spiritual impairment is in need of further theoretical definition and clinical description.

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