

Personality, Religious and Spiritual Struggles, and Well-Being

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### Abstract

The current research examined (i) whether personality traits and religiousness predict features of religious and spiritual (r/s) struggles, and (ii) whether features of r/s struggles predict well-being when accounting for personality traits and religiousness. Participants were comprised of U.S. adults from an online study ( $N = 418$ ) and undergraduates ( $N = 965$ ) who reported an ongoing r/s struggle. Overall, people with lower neuroticism and higher religiousness reported more favorable attributions of God's intent in the struggle, more meaning found in the struggle, as well as greater spiritual growth and less spiritual decline as a potential result of the struggle. In turn, these more positive perceptions of the r/s struggle predicted a modest amount of unique variance in well-being (higher satisfaction with life and self-esteem, less depression and anxiety) even when controlling for personality and religiousness. Thus, adjustment to specific r/s struggles may have a distinct role in predicting psychological health.

*Keywords:* spiritual struggle, Big Five; religiousness; well-being

### Personality, Religious and Spiritual Struggles, and Well-Being

Although religion is often a source of comfort and security (e.g., Beck & McDonald, 2004; Exline, Yali, & Sanderson, 2000), many people also experience struggles around religious and spiritual (r/s) issues (e.g., Bryant & Astin, 2008; Ellison & Lee, 2010; Exline & Rose, 2013; Pargament, 2007). R/s struggles involve tensions, conflicts, or strains about sacred matters (Exline, 2013; Pargament, 2007). These struggles might focus on the supernatural domain (God, the devil), on other people, or on the self (doubts, moral conflicts, lack of meaning in life). Recent work suggests that r/s struggles are related to aspects of personality (Ano & Pargament, 2013; Grubbs, Exline, Pargament, & Wilt, submitted; Wood et al., 2010), as well as to psychological well-being and distress (Ellison & Lee, 2010; Exline, Pargament, Grubbs, & Yali, 2014; McConnell, Pargament, Ellison, & Flannelly, 2006). The studies presented in this manuscript build on previous research by examining whether (i) personality traits predict features of r/s struggles and whether (ii) r/s struggles predict well-being and distress above and beyond personality traits. Thus, this research has the potential to further integrate research on r/s, personality, and psychological health (MacDonald, 2000; Piedmont, 1999; Piedmont et al., 2007; Piedmont & Wilkins, 2013; Unterrainer, Ladenhauf, Mozedi, Wallner-Liebmann, & Fink, 2010).

#### **Personality and Religious/Spiritual Struggles**

Personality traits may be defined as patterns of affect, behavior, and cognition that are stable and consistent over time and space (Ortony, Norman, & Revelle, 2005). Similar to traits, r/s variables describe dynamic mental and behavioral processes; however, r/s constructs are unique in that they concern a person's perceived relationship with some form of transcendent reality - perhaps referred to as the Sacred or the Divine (Hill &

Pargament, 2003). Our goal of examining the ways in which personality traits contribute to features of r/s struggles stems from this relatively straightforward premise: The ways in which one generally interacts with the world and oneself have implications for the ways in which one will respond to r/s issues. The study of how personality relates to r/s functioning has received an increasing amount of attention (e.g., MacDonald, 2000; McCullough, Tsang, & Brion, 2003; Saroglou, 2002, 2010); however, understanding of how personality traits might contribute to r/s struggles is still in its nascent stages.

In the studies presented in this manuscript, we consider the relations between features of r/s struggles and the personality traits associated with the Five-Factor Model of personality (McCrae & Costa, 2008), or the Big Five (John, Nauman, & Soto, 2008): extraversion, agreeableness, conscientiousness, neuroticism, and openness. Extraversion comprises traits concerned with assertiveness, sociability, and enthusiasm. Agreeableness reflects broad tendencies toward politeness and compassion. Conscientiousness concerns variations in responsibility, order, and affinity for routine. Neuroticism comprises traits associated with negative emotional experience. Finally, openness reflects a propensity to engage with intellectual ideas and be open to novel experiences.

To date, several studies have examined how the Big Five relate to r/s struggles. The trait most consistently linked to concurrent r/s struggles is neuroticism. People higher in neuroticism tend to experience more r/s struggles (Ano & Pargament, 2013), more negative appraisals of their relationship with God (Werdel, Dy-Liacco, Ciarrocchi, Wicks, & Breslford, 2014), and more anger toward God (Grubbs, Exline, & Campbell, 2013; Wood et al., 2010). Current levels of anger toward God also show negative correlations with conscientiousness (Grubbs et al., 2013; Wood et al., 2010). Studies investigating whether

agreeableness relates to anger toward God have found a negative association (Grubbs et al., 2013) and a null association (Wood et al., 2010), although the null finding is perhaps mitigated because agreeableness was measured using a two-item scale. A recent study of college students (Grubbs et al., submitted) extended this research by examining the Big Five (in combination with self-concept variables) as predictors of ongoing r/s struggles, both concurrently and longitudinally. Among the personality traits, neuroticism emerged as a positive predictor of a variety of r/s struggles, whereas agreeableness and conscientiousness were consistently, inversely related to r/s struggles.

The studies just reviewed make a compelling case that the personality traits of neuroticism and conscientiousness, and perhaps agreeableness, are related to r/s struggles and might play a part in the maintenance and/or development of struggles over time. Yet, there are a number of questions regarding the relationships between personality and r/s struggles that have not been explored. With regard to the aims of this manuscript, prior works have not considered whether traits might predict the experience of ongoing r/s struggles. Although struggle denotes a negative experience, it is possible for r/s struggles to be perceived as positive or beneficial (Pargament, 2007; Pargament, Murray-Swank, Magyar, & Ano, 2005). Thus, we explored whether personality traits were related to both positive and negative attributions of r/s struggles. Specifically, we tested whether the Big Five predicted attributions of God's intent in the struggle as positive or negative (Exline, Smyth, Carey, & Park, 2011), meaning making regarding one's struggle (Park, 2010, 2013), and perceived spiritual growth/decline as a potential result of the struggle (Cole, Hopkins, Tisak, Steel, & Carr, 2008; Wortmann et al., 2012).

### **Religious/Spiritual Struggles and Well-Being**

Struggles with r/s have been related to a myriad of emotional problems including depression and anxiety (McConnell et al., 2006), difficulty adjusting to traumatic life events (Witvliet, Phipps, Feldman, & Beckham, 2004), and even suicidal ideation (Exline, Yali, & Sanderson, 2000). Although most studies have been cross-sectional, longitudinal work suggests long-term and possibly causal effects of r/s struggles on psychosocial functioning. A number of studies (e.g., Pirutinsky, Rosmarin, Pargament, & Midlarsky, 2011; Wortmann, Park, & Edmondson, 2012) have shown that r/s struggles prospectively predict depressive symptoms. Other studies suggest that r/s difficulties can hinder progress in physical rehabilitation (Fitchett, Rybarczyk, DeMarco, & Nicholas, 1999) and predict declines in immune system functioning (Trevino et al., 2010), leading to poorer long-term recovery from disease. R/s struggles have even been shown to predict increased mortality rates (Pargament, Koenig, Tarakeshwar, & Hahn, 2001). In short, the research literature is now at the point where it is clear that struggles relate to lower psychosocial and physical health.

The question remains, however, as to whether features of r/s struggles provide incremental validity for predicting well-being above and beyond personality traits and religiousness. This is an important question to answer given the robust associations between the Big Five and various indicators of well-being (Ozer & Benet-Martinez, 2006; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007; Steel, Schmidt, & Schultz, 2008). Neuroticism is a strong predictor of distress and psychopathology (Ormel et al., 2013), whereas extraversion, agreeableness, and conscientiousness are related to positive psychological functioning (e.g., DeNeve & Cooper, 1998; Komulainen et al., 2014; Magee, Heaven, & Miller, 2013). Openness typically has weak or inconsistent associations with measures of emotional well-being (Steel, Schmidt, & Schultz, 2008). Additionally, as

religiousness has implications for mental health (e.g., Pargament, Koenig, & Perez, 2000; Park, 2013), it is important to determine whether r/s struggles have unique effects on well-being after controlling for religiousness.

In the current project, we examined whether the features of r/s struggles mentioned previously (attributions of God's role, perceived meaning, and spiritual growth/decline) would predict satisfaction with life (Diener, Emmons, Larsen, & Griffin, 1985), self-esteem (Rosenberg, 1965), depression (Andersen, Malmgren, Carter, & Patrick, 1994), and anxiety (Spitzer, Kroenke, Williams, & Löwe, 2006) after accounting for the Big Five traits and religiousness. If features of r/s struggles emerged as predictors of well-being and distress above and beyond the Big Five and religiousness, this would contribute to the growing body of literature suggesting that r/s struggles are uniquely relevant to psychological health (Ano & Vasconcelles, 2005; Ellison & Lee, 2010). Furthermore, it would heed Piedmont's (2005) call for studies showing that r/s variables show incremental validity for predicting important outcomes.

### **Hypotheses**

The first goal of the present studies was to examine how personality relates to features of ongoing r/s struggles. For personality variables, we predicted that neuroticism, given the generally negative emotions and cognitions that go along with this trait, would be associated with poorer experiences during r/s struggles (i.e., less favorable appraisals of God's intent, less meaning-making and spiritual growth, and more spiritual decline). Given previous research showing that agreeableness and conscientiousness were negatively related with r/s struggles, we predicted that these traits would be associated with a more positive experience during r/s struggles (i.e., more favorable appraisals of God's intent,

greater meaning-making and spiritual growth, and less spiritual decline). We expected that openness, as a result of its associations with greater inquisitiveness and depth (DeYoung, Grazioplene, & Peterson, 2012), would relate positively to meaning-making and possibly to spiritual growth. We did not have strong a-priori hypotheses regarding extraversion. We saw it as particularly important to include religiousness in our models predicting the experience of ongoing r/s struggle, as more religious individuals might find the experience of r/s struggles especially troubling and yet also view r/s struggles as opportunities to reflect upon and deepen their faith (Pargament, Tarakeshwar, Ellison, & Wulff, 2001).

The second goal was to test whether features of r/s struggles predicted well-being above and beyond personality traits and religiousness. We expected that, after controlling for personality and religiousness, positive attributions of God's intent, meaning found in the struggle, and perceived spiritual growth would predict a more positive profile of well-being (higher satisfaction with life and self-esteem, lower levels of depression and anxiety), whereas we expected that less favorable attributions of God's intent in the struggle and perceived spiritual decline as a result of the struggle would predict a more negative profile of well-being.

## **Method**

### **Participants**

Two samples from the U.S. were employed in the current studies: the first was an adult internet sample, and the second was an undergraduate sample. Data from both samples were collected as part of larger studies investigating r/s struggles. Prior to completing the survey, participants in each sample were given informed consent in which

they read that the survey focused on religious and spiritual issues. The presentation of scales was not counterbalanced.

**Adult web sample.** We used Amazon's Mechanical Turk (MTurk) website to recruit the first sample and administer the survey. MTurk is an online labor market where researchers (or any individual or company) may post tasks. A growing body of research suggests that data collected using MTurk are reliable and valid for studying normal and clinical populations, and it also carries advantages over traditional student samples in terms of diversity (Paolacci & Chandler, 2014).

A total of 1,047 adults recruited from MTurk completed the survey. People choosing to describe a specific r/s struggle in the response to the prompt, "Here is a brief description of a religious/spiritual struggle I've experienced in the past few months...", completed additional questions regarding their r/s struggle. In this sample, 418/1,047 people (39.9%) reported a specific struggle. Of these, 62% were female. Ages ranged from 18 to 81. The mean age was 34.79 ( $SD= 11.11$ ). Ethnicities included 83% Caucasian, 9% Black/African-American, 6% Latino/Hispanic, 5% Asian/Pacific Islander (Ethnicities summed to over 100% because people were allowed to choose more than one ethnicity category.) Religious affiliations included Christian (39%; 15% Catholic, 13% Protestant, 13% unspecified Christian), Jewish (2%), Hindu (.5%), Muslim (1%), and Buddhist (1%). A substantial percentage also reported being atheist (15%), agnostic (24%), or having no religious affiliation (10%). Six percent listed their religious affiliation as "spiritual," "other," or "unsure." Participants were compensated \$3 for completing the survey.

**Undergraduate sample.** This sample consisted of undergraduates attending three universities in the U.S. Two of the universities are located in the Great Lakes region; one is

a large, public university and the other is a private research university. The third site is a private Christian university in the western U.S. All participants received partial credit in introductory psychology. The total sample consisted of 3,083 students; of those, 965/3,083 (31.3%) reported a specific struggle. Among participants reporting a specific struggle, 70% were female. Ethnicities included 75% Caucasian, 6% Black/African-American, 10% Latino/Hispanic, 15% Asian/Pacific Islander, and 2% other ethnicities. (Again, people were allowed to choose more than one ethnicity category.) Religious affiliations included Christian (85%; 16% Catholic, 24% Protestant, 44% unspecified Christian), Jewish (1%), Hindu (1%), Muslim (1%), and Buddhist (.5%). Students also reported being atheist (2%), agnostic (5%), or having no religious affiliation (4%). Two percent listed their religious affiliation as “spiritual,” “other,” or “unsure.”

### **Measures**

**Big Five Inventory.** We used the 44-item Big Five Inventory (BFI; John, Dohanue, & Kentle, 1991) to assess extraversion (8 items), agreeableness (9 items), conscientiousness (9 items), neuroticism (8 items), and openness (10 items). The BFI includes short statements (e.g., “I have a forgiving nature”) and requires respondents to rate agreement with each statement from 1 (*strongly disagree*) to 5 (*strongly agree*). There is evidence (Rammstedt & John, 2007) to suggest that self-report scores on the BFI exhibit high levels of internal consistency, test-retest reliability, convergent validity with other measures of the Big Five, and external validity with peer ratings.

**Religiousness.** We measured general religiousness using the Religious Belief Salience Scale (Blaine & Crocker, 1995), which assesses the importance of religious belief in respondents’ everyday lives. This scale has been widely used and its scores have shown

reliability and validity in a large body of studies (Hackney & Sanders, 2003). People responded to 4 items (e.g., “Being a religious person is important to me”) from 0 (*does not apply; I have no religious/spiritual beliefs*) to 11 (*strongly agree*), with higher scores indicating higher levels of religiousness. (We omitted one item that assumed belief in God.)

**Responses to specific struggles.** People choosing to describe a specific r/s struggle in the response to the prompt, “Here is a brief description of a religious/spiritual struggle I’ve experienced in the past few months...” completed additional questions regarding their r/s struggle.

We assessed a variety of potentially negative and positive reactions to the r/s struggle. To assess attributions about God’s intent, students read the prompt, “I believe that in this situation involving struggle, God \_\_\_\_ me” and completed 5 items reflecting *positive attributions* (loved, comforted, strengthened, encouraged, and supported) and 5 items reflecting *negative attributions* (turned away from, betrayed, abandoned, neglected, and abused). Items were rated on an 11-point scale (0 = *not at all*; 10 = *extremely*). These items were meant as face valid indicators of how people perceived God’s intent toward them in the r/s struggle.

To assess the degree to which a sense of meaning was found in the struggle, people read “When I think about this incident involving struggles...” followed by six statements to assess meaning derived from r/s struggles (Exline, Park, Smyth, & Carey, 2011): e.g., “I can see some meaning in the struggle.” Items were rated from 0 (*not at all*) to 10 (*extremely*), with higher scores indicating more meaning found in the r/s struggle. These items have worked well as a measure of meaning found in a specific struggle in prior research (Exline et al., 2011).

In the university sample only (due to space constraints in the web sample), an abbreviated version of the Spiritual Transformation Scale (Cole et al., 2008) was used to assess spiritual growth and decline in response to the r/s struggle. Six items assess spiritual growth (e.g., "I have grown spiritually"), and six assess spiritual decline (e.g., "I feel I've lost some important spiritual meaning that I had before"). Items were rated from 1 (*not at all true*) to 7 (*very true*), indicating the degree to which participants felt the statement was representative of their experience in the r/s struggle. Scores on this scale have shown evidence of reliability and validity in samples of individuals who are coping with difficult life circumstances (Cole et al., 2008).

**Outcome measures.** We included the Satisfaction with Life Scale (SWLS; Diener et al., 1985), a 5-item measure that evaluates how pleased people are with their lives (e.g., "I am satisfied with my life"). People responded from 1 (*strongly disagree*) to 7 (*strongly agree*) for each item. We also included the Rosenberg Self-Esteem Scale (Rosenberg, 1965), which consists of 10 items assessing global self-esteem (e.g., "On the whole, I am satisfied with myself"). Items were rated from 1 (*strongly disagree*) to 4 (*strongly agree*). We included two measures of psychological distress: a 10-item form of the Center for Epidemiologic Studies Depression Scale (CES-D10; Andresen, Malmgren, Carter, & Patrick, 1994), a brief measure of anxiety and worry, the GAD-7 (Spitzer, Kroenke, Williams, & Löwe, 2006). The CES-D10 was developed as a depressive symptom screening scale for epidemiological investigations. Items assessing depressive symptoms during the past week (e.g., "felt depressed") were rated from 1 (*rarely or none of the time, less than 1 day*) to 4 (*most or all of the time, from 5 to 7 days*). The GAD-7 measures generalized anxiety symptoms (e.g., "feeling nervous, anxious, or on edge", "being so restless that it is hard to

sit still”) during the previous two weeks from 1 (“*not at all*”) to 4 (“*nearly every day*”). Each of the aforementioned assessments is among the most widely used measures of well-being and distress, respectively.

### **Results and Discussion**

All analyses were conducted using the base functions and the psych (Revelle, 2014) package in the statistical program R (R Development Core Team, 2014).

#### **Descriptive Statistics and Reliabilities**

Table 1 reports descriptive statistics and  $\alpha$ s for all measures in both samples.<sup>1</sup> Internal consistencies were acceptable for all scales, with  $\alpha$ s ranging from .77 to .98. It is notable that people reported relatively higher degrees of positive attributions of God’s intent in the struggle compared to negative attributions of God’s intent, both in the web sample,  $t(348) = 12.38, p < .001, Cohen’s d = 1.05, Cohen’s d_{95\% CI} = 0.89$  to 1.21, and the college sample,  $t(909) = 37.69, p < .001, Cohen’s d = 1.97, Cohen’s d_{95\% CI} = 1.86$  to 2.08. , as well as a relatively higher degree of spiritual growth than spiritual decline in the college sample,  $t(950) = 14.30, p < .001, Cohen’s d = 0.70, Cohen’s d_{95\% CI} = 0.60$  to 0.79.

Additionally, people in both samples reported moderately high degrees of meaning found in the struggle (web: 6.64/10; college: 7.39/10). Thus, overall, people in both studies attributed more positive than negative spiritual qualities to their r/s struggles.

#### **Predicting Adjustment to Ongoing Religious/Spiritual Struggles**

Our first goal was to determine whether the Big Five traits and religiousness predicted features of ongoing r/s struggles. As we relied on correlational and regression analyses, preliminary exploration was conducted to detect whether violations occurred for the assumptions of normality, linearity, homoscedasticity, and independence of residuals.

Diagnostic testing raised concerns regarding positive skew for the *negative attributions of r/s struggles* variable in both samples, however, square root transformations did not result in significant improvement; thus, due to ease of interpretation without transformation, these variables were left untransformed (Tabachnick & Fidell, 2007).

As some of the variables in each study had missing data, we computed pairwise Pearson zero-order correlations for both samples (see Table 2).<sup>2</sup> These results largely supported our predictions by showing that (i) neuroticism had small to moderate associations with more negative perceptions regarding the struggle (i.e., lower attributions of God's positive intent, higher attributions of God's negative intent, less meaning found, less spiritual growth, more spiritual decline) and that (ii) agreeableness had small to moderate associations with more positive perceptions related to the struggle. Our prediction that conscientiousness would be associated with a more favorable outlook on the struggle was partially supported by the small, positive correlations of conscientiousness with positive attributions of God's intent (both samples) and its small, negative correlation with negative attributions of God's intent and spiritual decline (college sample). Our expectations that openness would associate with more meaning found in the struggle, higher spiritual growth, and less spiritual decline were not supported. We had no strong expectations regarding extraversion, and the correlations between extraversion and perceptions of r/s struggles were low (all fell between -.09 and .11). Religiousness emerged as a very strong predictor of a favorable experience during r/s struggles.

To examine the unique relations between variables, we conducted pairwise simultaneous regressions predicting r/s struggle variables from the Big Five and religiousness (Table 3). Neuroticism consistently predicted negative perceptions regarding

the struggle, whereas religiousness strongly predicted favorable perceptions. Unique associations between other personality and struggle variables were weak or inconsistent. The *multiple R<sup>2</sup>* statistics show that predictor variables in combination explained moderate variance in negative attributions of God's intent, sense of meaning, and spiritual decline; predictor variables explained substantial variance in positive attributions of God's intent and spiritual growth, mainly due to the contribution of religiousness. Thus, personality (especially neuroticism) and religiousness appear to, as a whole, be relevant to the ways in which people experience specific r/s struggles. These findings raised the question of whether the r/s struggle variables would be related to well-being when controlling personality and religiousness.

### **Predicting Well-Being**

Pairwise correlations between well-being variables (satisfaction with life, self-esteem, depression, and anxiety) and personality, religiousness, and struggle-related variables are shown in Table 2. For the Big Five, as expected, a positive profile of emotional well-being was associated with extraversion, agreeableness, conscientiousness, and low neuroticism; well-being measures were largely unrelated to openness. Well-being was related to higher levels of religiousness in general, as well as to more positive perceptions of one's experience in a specific r/s struggle.

To determine the contribution of r/s struggle variables to well-being, we first conducted pairwise simultaneous regressions predicting each well-being variable from the struggle variables available in each study. (Spiritual growth and decline were not assessed in the web sample.) Results (Table 4) showed that the struggle variables together predicted a moderate amount of variance in each well-being variable in the web sample

(7% to 11%) and a slightly higher proportion in the college sample (10% to 15%), due to the addition of spiritual growth/decline variables in the college sample. There were also a number of unique relationships between struggle variables and well-being; together, those unique associations mirrored the results from zero-order correlations showing that well-being was related to more positive perceptions of one's experience in a specific r/s struggle.

We next conducted a series of pairwise hierarchical regressions to determine whether struggle variables were uniquely predictive of well-being. In the first step, we entered the Big Five and religiousness as predictors of each well-being variable. In the second step, we entered the r/s struggle variables available in each study.

Results from these regressions for the web sample are shown in Table 5. In step 1, personality and religiousness accounted for a moderate amount of variance in satisfaction with life (18%) and substantial variance in self-esteem (44%), depression (43%), and anxiety (47%). Extraversion, conscientiousness, and religiousness were consistently, positively related to well-being, whereas neuroticism was negatively related to well-being. In step 2, the addition of r/s struggles variables explained a small but significant portion of variance (1% to 3%) in each well-being variable. In addition, negative attributions of God's intent were uniquely related to greater depression and anxiety.

Results from the college sample (Table 6) largely mirrored those from the web sample with regard to overall variance explained and change in variance accounted for by r/s struggle variables. Notably, sense of meaning emerged as a uniquely significant predictor of a positive well-being profile, whereas spiritual decline was uniquely related to a negative well-being profile. Struggle variables explained slightly more variance in well-

being in the college sample as compared to the web sample; this was because sense of meaning and spiritual decline uniquely predicted well-being in the college sample.

In sum, the results across both samples indicate that personality (especially neuroticism) and religiousness have strong associations with well-being, comparable to what has been shown in previous studies (e.g., Ormel et al., 2013; Roberts et al., 2007). Yet, the ways in which one perceives different aspects of r/s struggles also showed incremental validity (Piedmont, 2005) for predicting well-being. Additionally, negative attributions of God's intent in the struggle, meaning found in the struggle, and spiritual decline as a result of the struggle could have unique ramifications for emotional health.

### **Supplementary Analyses for Meaning Found in the R/S Struggle**

The largest discrepancy in the regression findings between samples was that sense of meaning found in the struggle was uniquely predictive of well-being variables in the college sample but not in the web sample. Yet, in the web sample, sense of meaning was related to all well-being variables at the zero-order level. We conducted several supplementary analyses in order to explore the basis of these inconsistent findings.

First, we tested whether the strength of the zero-order correlations between sense of meaning and well-being variables differed across samples using the formula to test for differences between independent correlations (Steiger, 1980). We found that the correlations did not differ significantly from each other across samples: for satisfaction with life ( $r_{diff} = -.05, z = -0.63, p = .26$ ); self-esteem ( $r_{diff} = -.07, z = -0.45, p = .33$ ); depression ( $r_{diff} = .05, z = 0.63, p = .26$ ); and anxiety ( $r_{diff} = .07, z = 0.45, p = .33$ ).

Therefore, we investigated further why we did not find unique associations between sense of meaning and well-being in the web sample. First, we conducted simultaneous

regressions predicting well-being variables from meaning found while controlling for the Big Five and religiousness. The results indicated that sense of meaning was uniquely predictive of satisfaction with life ( $\beta = .12, p < .05$ ) and depression ( $\beta = -.08, p < .05$ ) but not self-esteem ( $\beta = .03, p = .41$ ) or anxiety ( $\beta = -.06, p = .31$ ). We next evaluated two additional sets of models. The first set predicted well-being variables from meaning found while controlling for the Big Five, religiousness, and positive attributions of God's intent; the second set controlled for the Big Five, religiousness, and negative attributions of God's intent. In these models, sense of meaning was not uniquely related to well-being variables.

Thus, it appears that, in the web sample, the strong associations between sense of meaning with positive attributions of God's intent ( $r = .45, p < .001$ ) and negative attributions of God's intent ( $r = -.40, p < .001$ ) obscured the unique associations found when controlling for the Big Five and religiousness. In the college sample, although sense of meaning still correlated strongly with positive/negative attributions of God's intent, we had a larger sample size and therefore more power to detect the small effect sizes that characterized the unique associations between sense of meaning and well-being variables.

### **General Discussion**

The first aim of these studies was to determine whether personality traits and religiousness predicted features of r/s struggles. We found that neuroticism predicted less favorable perceptions of God's intent in the struggle, less meaning found in the struggle, and less spiritual growth and more spiritual decline as a result of the struggle. Although other Big Five traits showed some small and significant correlations with r/s struggle variables, these results were relatively weak and inconsistent across samples. In contrast, religiousness emerged as a strong predictor of positive adjustment to r/s struggles.

The second aim was to determine whether perceptions of r/s struggles predicted well-being. Zero-order correlations and regressions including only struggle variables clearly showed that well-being variables (satisfaction with life, self-esteem, depression, and anxiety) were all related to ways in which people adjusted to a specific r/s struggle. Although hierarchical regression showed that the Big Five and religiousness accounted for substantial variance in well-being, struggle variables still accounted for a small but significant increment of variance in each well-being variable across both samples. Negative attributions of God's intent and spiritual decline emerged as unique predictors of lower well-being, whereas meaning found was related to greater well-being (although the evidence for meaning's effects were stronger in the college sample than in the web sample).

These results build on research suggesting that (i) personality and religiousness are linked to r/s struggles (e.g., Ano & Pargament, 2013; Wood et al., 2010), and (ii) r/s struggles have important implications for mental health (see Exline, 2013, for a review). More broadly, this research adds to knowledge about predictors and correlates of r/s struggles. This knowledge may benefit future efforts to understand individual differences in the experience of struggles and thus help to ameliorate their detrimental effects.

### **Adjusting to R/S Struggles**

Studies showing that r/s struggles are common (Bryant & Astin, 2008; Johnson & Hayes, 2003) and can be deleterious to psychosocial health (see Exline, 2013; Pargament, Murray-Swank, Magyar, & Ano, 2005) highlight the need for work examining how different people perceive struggles and adjust to the challenges and demands presented by r/s struggles. Building on prior work showing that personality and religiousness predict the occurrence of different types of r/s struggles (Grubbs, Exline, Pargament, & Wilt,

submitted), we investigated whether the Big Five traits and religiousness were related to adjustment to r/s struggles.

Neuroticism was the only trait that emerged as a consistent predictor of r/s struggle variables. People scoring higher on neuroticism showed a negative psychological trajectory: they believed that God had less positive and more negative intent in the struggle, found less meaning in the struggle, and perceived greater spiritual decline as a result of the struggle. Thus, neuroticism might be a risk factor for future psychological difficulties as a result of the r/s struggle. This is in line with the large body of research suggesting that neuroticism entails a higher negative reactivity to stressors and is a risk factor for a broad range of emotional disorders (Ormel et al., 2014).

In contrast, people with greater religiousness showed a positive psychological trajectory in regard to the r/s struggle. Higher investment and commitment to r/s life should motivate a more careful consideration of how engaging with (and perhaps ultimately resolving) r/s struggle might lead to an even deeper and stronger faith (Pargament et al., 2005). Less religious people may have more problems when navigating r/s difficulties, as they might not be privy to the benefits of engagement with other people or religious belief systems that might help them understand and deal with their struggles.

High neuroticism and low religiousness are associated with a higher tendency to struggle with r/s issues in the first place (Ano & Pargament, 2013; Exline et al., 2014). This finding, in combination with the present findings, highlights the importance of supporting those who are more neurotic and less religious when they do struggle with r/s issues. Providing support for those experiencing r/s struggles is particularly important given the potential for struggles to have negative effects on well-being, which we discuss next.

**Does Adjustment to R/S Struggles Uniquely Predict Well-Being?**

There is a large and growing amount of evidence suggesting that r/s struggles relate to emotional difficulties (e.g., McConnell et al., 2006; Pirutinsky et al., 2011; see Exline, 2013, for a review). Our results build on this work by revealing that features of a particular r/s struggle predict satisfaction with life, self-esteem, depression, and anxiety, both when considered in bivariate correlations and when features of r/s struggles were entered as predictors in regressions. These results showed that in reference to a specific struggle, negative attributions of God's intent, less meaning found, and greater perceived spiritual decline predicted a poorer profile of psychological health. Yet, the amount of evidence suggesting that r/s struggles predict well-being pales in comparison to the massive amount of work documenting the Big Five and religiousness as robust predictors of emotional health (for reviews, see Koenig, King, & Carson, 2012; Lucas & Diener, 2008). Indeed, in our studies, the Big Five and religiousness explained a substantial portion of the variance in well-being variables, which raised questions about whether features of r/s struggles could predict well-being above and beyond the effects of personality and religiousness.

The hierarchical regression results showed clearly that features of r/s struggles showed incremental validity for predicting well-being (Piedmont, 2005). Although the incremental variance explained by features of r/s struggles is modest (between 1% to 6%), we were impressed by the consistency of effects across all well-being variables, given that we imposed such stringent statistical tests (controlling for the Big Five and well-being). Additionally, a few of the individual r/s struggles variables (negative attributions of God's intent, meaning found, and perceived spiritual decline) showed unique associations with well-being.

These results are in line with previous research (Piedmont, 2012) suggesting that features of r/s struggles are relevant to positive and negative indicators of well-being above and beyond the combination of the Big Five and religiousness. As such, adjustment to r/s struggles may represent a uniquely important aspect of psychological experience not captured by traditional measures of personality or overall religiousness.

Furthermore, as the ways in which people adapt to r/s struggles might be amenable to treatment (Pirutinsky et al., 2011), it is possible that interventions focused on the variables considered here could alleviate suffering and boost the quality of life of people seeking treatment in part due to difficulties with r/s issues. For example, religiously and spiritually focused psychotherapies (e.g., Pearce et al., 2015) may help clients to find meaning in their r/s struggles or change their interpretations of God's intent in the struggle. The findings from this study suggest that members of the community at large and college students more specifically might benefit from such psychotherapies incorporating r/s elements. Given that r/s struggles have recently been identified as a common concern among college students (Bryant & Astin, 2008), such interventions might be particularly apt for this population.

### **Limitations**

Self-report assessments have their own well-known limitations (Paulhus & Vazire, 2007), as people may be motivated to provide inaccurate reports in order to maintain consistency, for self-enhancement, or for impression management. However, as the psychological experience of r/s struggles is held within individuals, self-report is the most direct means of measurement. As this research concerned variables relevant to mental health, a limitation is that we did not employ clinical samples: we encourage future

research to examine whether our findings hold for people experiencing mental health difficulties. As is the case with much research on r/s issues in its early stages, these results await replication outside of Western and predominantly Christian populations.

Furthermore, our findings emerged in samples in which a substantial percentage of individuals reported atheistic and agnostic beliefs. Our preliminary findings<sup>2</sup> suggested that the relations between adjustment to r/s struggles with personality and mental health were similar for believers and non-believers, which is consistent with previous findings showing that non-believers experience a significant amount of distress around r/s struggles (see Weber, Pargament, Kunik, Lomax, & Stanley, 2012 for a review).

Nonetheless, future research should continue to carefully consider whether such associations depend on one's particular r/s belief system or religious affiliation.

### **Conclusions**

The present studies showed that, although personality traits and religiousness influence people's perceptions of r/s struggles and are highly associated with well-being, views of God's intent in the struggle, meaning found, and perceived spiritual decline are still predictive of a variety of indicators of well-being. These results add to the growing body of research aimed at understanding the complex interplay between personality, spirituality, and mental health (Piedmont et al., 2007; Unterrainer et al., 2014). Specifically, they establish adjustment to r/s struggles as a potentially important aspect of psychological functioning that is uniquely relevant to mental health.

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### Footnotes

<sup>1</sup> See the online supplemental materials for a table reporting the results of Welch Two Sample *t*-tests comparing means across samples, the *Cohen's d* effect sizes of the mean differences, and *F* tests to compare variances across samples. The results from these tests showed small to moderate mean differences suggesting that, on the whole, the web sample had somewhat lower levels of psychosocial adjustment in general and less favorable perceptions of their r/s struggles. Variables in the web sample also had larger variances. These cross-sample differences likely reflect the greater heterogeneity of psychological functioning inherent in community samples as compared to undergraduate samples.

<sup>2</sup> See the online supplemental material for tables reporting correlations between r/s struggles variables and other variables separated by “believers” (people who reported some religious/spiritual affiliation) and “non-believers” (people who reported being atheist, agnostic, or having no religious/spiritual affiliation). Only 2/80 differences between correlations were significant at  $p < .01$  (Steiger, 1980), and the pattern of correlations between r/s struggles variables and other variables were similar for believers and non-believers. Thus, we reported results aggregated across believers and non-believers in the main text of the paper. Additionally, these tables showed that  $\alpha$  reliabilities were high for each scale for both believers and non-believers.

Table 1

*Descriptive Statistics*

<i>Variables</i>	<i>Range</i>	<u>Web Sample</u>				<u>College Sample</u>			
		<i>N</i>	<i>M</i>	<i>SD</i>	$\alpha$	<i>N</i>	<i>M</i>	<i>SD</i>	$\alpha$
Extraversion	1-5	418	2.88	0.92	.90	965	3.30	0.83	.89
Agreeableness	1-5	418	3.67	0.66	.82	965	3.75	0.57	.78
Conscientiousness	1-5	418	3.69	0.70	.87	965	3.49	0.58	.80
Neuroticism	1-5	418	2.91	0.88	.89	965	3.06	0.70	.82
Openness	1-5	418	3.75	0.66	.85	965	3.52	0.58	.77
Religiousness	0-11	417	7.47	3.99	.98	965	9.36	3.17	.97
Positive Attributions	0-10	349	5.26	3.68	.96	911	7.25	3.22	.95
Negative Attributions	0-10	349	2.10	2.12	.93	910	2.03	1.92	.92
Sense of meaning	0-10	418	6.64	2.60	.83	963	7.39	2.13	.80
Spiritual Growth	1-7	--	--	--	--	951	3.95	1.76	.93
Spiritual Decline	1-7	--	--	--	--	952	2.80	1.52	.90
Satisfaction with Life	1-7	418	4.14	1.62	.92	961	4.71	1.23	.81
Self-esteem	1-4	418	3.00	0.60	.91	965	2.94	0.55	.89
Depression	10-40	418	19.45	6.38	.87	962	20.98	5.57	.84
Anxiety	7-28	418	13.45	5.67	.93	963	14.48	5.06	.79

*Note.* Sample sizes were 418 for the Web Sample and 965 for the college sample. *N* = number of responses for each variable. Positive Attributions = Positive Attributions of God's intent in the r/s struggle; Neg Att = Negative Attributions of God's intent in the r/s struggle.

Table 2

*Pairwise Pearson Zero-order Correlations among Variables*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Extraversion	--	.21	.16	-.26	.16	.09	.09	-.03	.05	.11	-.08	.24	.37	-.20	-.09
2. Agreeableness	.10	--	.30	-.33	.11	.17	.21	-.18	.13	.17	-.21	.26	.30	-.24	-.23
3. Conscientiousness	.08	.20	--	-.23	-.04	.10	.08	-.13	.06	.06	-.19	.22	.34	-.28	-.17
4. Neuroticism	-.24	-.32	-.40	--	-.05	-.19	-.25	.19	-.17	-.11	.22	-.34	-.55	.54	.59
5. Openness	.23	.01	-.02	-.05	--	.01	.04	-.04	.10	.07	-.02	.05	.08	.04	-.01
6. Religiousness	.09	.20	.15	-.08	-.07	--	.58	-.26	.30	.59	-.16	.23	.13	-.11	-.12
7. Pos Att	.11	.20	.15	-.15	-.03	.69	--	-.28	.44	.56	-.25	.25	.19	-.15	-.13
8. Neg Att	-.09	-.12	-.07	.19	-.10	-.15	-.30	--	-.38	-.11	.43	-.20	-.29	.28	.24
9. Sense of meaning	.09	.10	.06	-.11	.05	.25	.45	-.40	--	.35	-.26	.23	.22	-.23	-.19
10. Spiritual Growth	--	--	--	--	--	--	--	--	--	--	-.12	.18	.10	-.03	-.02
11. Spiritual Decline	--	--	--	--	--	--	--	--	--	--	--	-.27	-.33	.33	.26
12. Satis w Life	.25	.20	.25	-.33	-.06	.17	.22	-.20	.18	--	--	--	.55	-.46	-.33
13. Self-esteem	.29	.23	.46	-.56	.11	.23	.28	-.22	.15	--	--	.57	--	-.59	-.47
14. Depression	-.23	-.26	-.40	.62	.00	-.16	-.23	.29	-.18	--	--	-.53	-.65	--	.72
15. Anxiety	-.10	-.22	-.32	.68	-.01	-.04	-.11	.26	-.12	--	--	-.38	-.51	.76	--

*Note.* In the web sample,  $N = 418$ ; in the college sample,  $N = 965$ . Pairwise correlations for the web sample are presented below the diagonal, and correlations for the college sample appear above the diagonal. The number of pairwise associations differed across measures due to missing data. For values below the diagonal:  $r > |.10|$ ,  $p < .05$ ,  $r > |.13|$ ,  $p < .01$ ,  $r > |.16|$ ,  $p < .001$ . For values above the diagonal:  $r > |.07|$ ,  $p < .01$ ,  $r > |.09|$ ,  $p < .01$ ,  $r > |.11|$ ,  $p < .001$ . Pos Att = Positive Attributions of God'; Neg Att = Negative Attributions of God; Satis w Life = Satisfaction with Life Scale.

Table 3

*Standardized Betas and Multiple R-Squared Results from Pairwise Simultaneous Multiple Regressions Predicting Adjustment to R/S Struggles from Personality and Religiousness*

	Positive Attributions		Negative Attributions		Sense of Meaning		Spiritual Growth		Spiritual Decline	
	Web	College	Web	College	Web	College	Web	College	Web	College
Extraversion	.03	-.01	-.02	.06	.04	-.03	--	.05	--	.01
Agreeableness	.04	.08**	-.05	-.10**	.03	.04	--	.07*	--	-.12***
Conscientiousness	.00	-.02	.02	-.07*	-.01	.01	--	-.02	--	-.12***
Neuroticism	-.07**	-.12***	.16***	.12***	-.08*	-.11**	--	.03	--	.14***
Openness	.00	.02	-.09**	-.03	.05	.10**	--	.05	--	.00
Religiousness	.68***	.55***	-.13***	-.22***	.24***	.28***	--	.58***	--	-.10***
<i>Multiple R<sup>2</sup></i>	.49***	.36***	.06***	.10***	.08***	.12***	--	.35***	--	.10***

*Note.* In the web sample,  $N = 418$ ; in the college sample,  $N = 965$ . \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ . Positive Attributions = Positive Attributions of God's intent in the r/s struggle; Neg Att = Negative Attributions of God's intent in the r/s struggle. The number of pairwise associations differed across measures due to missing data.

Table 4

*Standardized Betas and Multiple R-Squared Results from Pairwise Simultaneous Multiple Regressions Predicting Well-Being from Adjustment to R/S Struggles*

	Satisfaction with Life		Self-esteem		Depression		Anxiety	
	Web	College	Web	College	Web	College	Web	College
Pos Att	.15**	.13**	.25***	.06	-.15**	-.05	-.04	-.04
Neg Att	-.13*	-.04	-.16**	-.15***	.25***	.13***	.25***	.12***
Sense of Meaning	-.03	.09*	-.03	.08**	-.01	-.12***	.00	-.10**
Spiritual Growth		.05		-.01		.08**		.07
Spiritual Decline		-.20***		.23***		.24***		.18***
<i>Multiple R<sup>2</sup></i>	.07***	.12***	.10***	.14***	.11***	.15***	.07***	.10***

*Note.* In the web sample,  $N = 418$ ; in the college sample,  $N = 965$ . \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ . Pos Att = Positive Attributions of God's intent in the r/s struggle; Neg Att = Negative Attributions of God's intent in the r/s struggle. The number of pairwise associations differed across measures due to missing data.

Table 5

*Standardized Betas, Multiple R-Squared, and R-Squared Change Results from Pairwise Hierarchical Multiple Regressions Predicting Well-Being Variables from Personality, Religiousness, and Adjustment to R/S Struggles in the Web Sample*

	Satisfaction with Life		Self-esteem		Depression		Anxiety	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Extraversion	.20***	.19***	.14***	.13***	-.09*	-.09*	.06	.07
Agreeableness	.08	.07	.00	.00	-.04	-.03	.00	.01
Conscientiousness	.12*	.12*	.27***	.27***	-.17***	-.17***	-.05	-.06
Neuroticism	-.20***	-.18***	-.40***	-.39***	.51***	.48***	.68***	.65***
Openness	-.10*	-.12*	.07	.07	.04	.06	.00	.02
Religiousness	.09*	.03	.15***	.08	-.08	-.02	.02	.04
Pos Att		.06		.11		-.04		.00
Neg Att		-.10		-.08		.16***		.15***
Sense of Meaning		.06		-.03		-.01		.00
<i>Multiple R<sup>2</sup></i>	.18***	.21***	.44***	.45***	.43***	.46***	.47***	.49***
<i>Partial F (3,409)</i>		2.45		5.21		7.22		5.18
$\Delta R^2$		.03***		.01***		.03***		.02***

*Note.*  $N = 418$ . \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ . Pos Att = Positive Attributions of God's intent in the r/s struggle; Neg Att = Negative Attributions of God's intent in the r/s struggle. The number of pairwise associations differed across measures due to missing data.

Table 6

*Standardized Betas, Multiple R-Squared, and R-Squared Change Results from Pairwise Hierarchical Multiple Regressions*

*Predicting Well-Being Variables from Personality, Religiousness, and Adjustment to R/S Struggles in the College Sample*

	Satisfaction with Life		Self-esteem		Depression		Anxiety	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Extraversion	.13***	.13***	.21***	.22***	-.05	-.07*	.08**	.07**
Agreeableness	.11***	.08**	.06*	.03	-.03	-.01	-.04	-.03
Conscientiousness	.10**	.08**	.19***	.17***	-.14***	-.12***	-.03	-.01
Neuroticism	-.22***	-.18***	-.43***	-.39***	.48***	.44***	.59***	.57***
Openness	.01	.00	.03	.02	.06**	.07**	.01	.01
Religiousness	.15***	.08*	.01	-.04	.00	.01	-.01	-.04
Pos Att		.05		-.01		.04		.09**
Neg Att		-.01		-.12***		.09**		.07**
Sense of Meaning		.09*		.07*		-.12***		-.08**
Spiritual Growth		.01		-.01		.07**		.06
Spiritual Decline		-.14***		-.12***		.15***		.10***
$R^2$	.19***	.22***	.40***	.44***	.32***	.38***	.36***	.39***
<i>Partial F</i> (5,954)		7.10		12.77		16.90		8.98
$\Delta R^2$		.03***		.04***		.06***		.03***

*Note.*  $N = 965$ . \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ . Pos Att = Positive Attributions of God's intent in the r/s struggle; Neg Att = Negative Attributions of God's intent in the r/s struggle. The number of pairwise associations differed across measures due to missing data.