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# Whether, When, and How Is Spirituality Related to Well-Being? Moving Beyond Single Occasion Questionnaires to Understanding Daily Process

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Todd B. Kashdan<sup>1</sup> and John B. Nezlek<sup>2</sup>

## Abstract

Prior research suggests that spirituality is positively related to well-being. Nevertheless, within-person variability in spirituality has yet to be addressed. Do people experience greater spirituality on some days versus others? Does daily spirituality predict daily well-being? Do within-person relationships between spirituality and well-being vary as a function of trait spirituality? The authors examined such questions using a daily diary study with 87 participants who provided reports of their daily spirituality and well-being for a total of 1,239 days. They found that daily spirituality was positively related to meaning in life, self-esteem, and positive affect, and the link from daily spirituality to both self-esteem and positive affect was fully mediated by meaning in life. Moreover, within-person relationships between daily spirituality and self-esteem and meaning in life were stronger for people higher in trait spirituality. Lagged analyses found positive relationships between present day spirituality and next day's meaning in life; there was no evidence for meaning in life as a predictor of the next day's spirituality. When focusing on affect, for people higher in trait spirituality, greater negative affect (and lower positive affect) predicted greater spirituality the next day. These results provide new insights into how spirituality operates as a fluctuating experience in daily life.

## Keywords

spirituality, religion, self-esteem, meaning in life, positive affect, negative affect, daily diary methodology

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Spirituality is clearly a significant aspect of many people's lives. In a survey of 729 adults in the United States who are part of a religious or spiritual community (e.g., church, synagogue), 47% strongly agreed with the statement that they are "a person who is spiritually committed" (Winseman, 2002). In a survey of 1,509 adults in the United States, 69% expressed a need to experience spiritual growth in their daily lives (Gallup & Johnson, 2003). In this same survey, 40% of people reported the presence of a profound spiritual experience that altered the direction of their lives. Although there is some disagreement, broadly defined, spirituality reflects the subjective experience of searching for and nourishing relationships with divine beings, whether this refers to God, a higher power, or other living creatures (e.g., sense of common humanity; Wong, Wong, McDonald, & Klaassen, 2007). Free from the organized rule systems, rituals, and worship of religion (Larson, Swyers, & McCullough, 1997), spirituality has been characterized as the feelings, thoughts, and behavior that arise from a search for the sacred (Hill & Pargament, 2003; Miller & Thoresen, 2003).

The problem inherent in focusing on religion to understand well-being is that

while religions aim to foster and nourish the spiritual life—and spirituality is often a salient aspect of religious participation—it is possible to adopt the outward forms of religious worship and doctrine without having a strong relationship to the transcendent. (Fetzer Institute, 1999, p. 2)

With an interest in predicting psychological well-being, in this research, we focused on spirituality. To support this approach, prior research suggests that when people were

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high in spirituality but low in religiosity, their sense of meaning in life, preference for personal growth, and self-reported self-actualization were substantially greater than people high in religiosity but low in spirituality (Ivtzan, Chan, Gardner, & Prashar, in press).

To date, a considerable body of research has found positive relationships between the strength of people's spiritual beliefs and their psychological well-being (Pargament & Mahoney, 2009). In a 2004 cross-national survey of adults in the United States, after adjusting for age, gender, education, marital status, income, and religious attendance and prayer, people who reported more spiritual experiences (e.g., find strength in spirituality, experience a connection to all of life) reported greater happiness, self-esteem, and optimism (Ellison & Fan, 2008). In a longitudinal study of adult psychiatric outpatients, controlling for age and baseline well-being, the strength of spiritual experiences (e.g., feeling close to God, sense of unity with the earth and all living creatures) was positively related to meaning in life at the end of treatment (Kass, Friedman, Lescrman, Zuttermeister, & Benson, 1991). In other work with college students and community samples (e.g., patients with neuromuscular diseases), compared with nonspiritual strivings, people view goals that pertain to spiritual concerns (e.g., transcending the self, searching for the sacred) as more valuable and less effortful, and from these pursuits, report a greater sense of meaning in life and life satisfaction, and less distress (Emmons, 2005; Emmons, Cheung, & Tehrani, 1998). Thus, the research on spirituality, using a broad range of methodologies in varied samples, points to the unique contribution of spirituality-related variables to well-being.

There have been theoretical advances about the dimensions of well-being that are likely to be most relevant to spirituality. When adopted as a worldview, theorists argue that spirituality offers a clear set of beliefs about secular and sacred aspects of life, a stable sense of self and group identity that in turn provides a sense of belonging and meaning in life (Graham & Haidt, 2010; Pargament, 2002; Ysseldyk, Matheson, & Anisman, 2010).

Meaning in life provides a stable platform for creating and sustaining a well-lived life. Elements include the motivation to search for meaning in one's life, actively comprehending and making sense of prior events and possible futures, and "the intention to accomplish something that is at once meaningful to the self and of consequence to the world beyond the self" (Damon, Menon, & Bronk, 2003, p. 121) otherwise known as purpose in life (Kashdan & McKnight, 2009; McKnight & Kashdan, 2009; Steger, 2009). Although there are many paths to meaning in life, spirituality offers a seemingly explicit means for people to commit to something larger than oneself (Peterson & Seligman, 2004). With a strong sense of spirituality, people can define their place in life by identifying what is sacred to them and solidifying a quest to better understand and devote oneself to whatever is

deemed sacred (Emmons, 2005; Mahoney et al., 2005). A deeper understanding of what is of central importance occurs from the transcendent spiritual feelings such as compassion, equanimity, gratitude, awe, humility, a sense of control, and a sense of unity, each of which has been previously tied to the "search for the sacred" at the core of spirituality (e.g., Pargament & Mahoney, 2009; Vaillant, 2008).

Theorists have contended that meaning in life might account for associations between spirituality and other dimensions of well-being (Koenig, McCullough, & Larson, 2001). Empirical support for this meditational model has emerged in global questionnaire and daily diary studies (e.g., Steger & Frazier, 2005). For instance, participants were asked each day whether they engaged in spiritual readings or meditation alongside questions relating to emotions experienced and how meaningful their lives felt. For the daily association between emotions and spirituality, a sense of meaning in life accounted for 91% of the variance. In another study by the same research team, where participants received a packet of dispositional questionnaires, for the association between self-esteem and religiousness/spirituality (with items such as how religious or spiritual do you consider yourself), a global sense of meaning in life accounted for 76% of the variance. These promising results informed our selection of measures to address well-being in the current study. Specifically, we measured the same dimensions of well-being as Steger and Frazier (2005): meaning in life, self-esteem, positive affect, and negative affect.

Although conceptualizations of well-being vary, we think of self-esteem as an important component of well-being in terms of relationships between well-being and spirituality. Our emphasis on self-esteem reflects Leary's (1999, 2006) conceptualization of self-esteem as a sort of barometer of how much people feel accepted and valued by others. Theorists have argued that a primary benefit of viewing spirituality as an important aspect of one's life is that commitment to this value system promotes positive relationships with other people and divine beings (Vaillant, 2008). One reason that a strong identification with spiritual values might offer greater social resources than other values is that there is an automatic attachment to highly organized support systems (Graham & Haidt, 2010) whether attending religious services at a church/mosque/synagogue, yoga classes at a studio, or a sense of unity while hiking in nature or making love to another person (Ysseldyk et al., 2010). Consistent with this, in a survey of 1,564 people, social connectedness was found to be substantially higher in people with stronger spiritual beliefs than for those with weaker beliefs (Greenfield, Vaillant, & Marks, 2009).

People are fundamentally motivated to feel accepted by others, and few situations provide objective evidence that another being values them. Adopting a spiritual belief system offers an exception. For spiritually inclined people who believe in God or other higher powers, these supernatural beings offer unconditional positive regard and social support

(a stark contrast to the instability inherent in human relationships; Pargament, 2002).

Methodological limitations in prior work limit our understanding of relationships between spirituality and well-being. Specifically, most previous research has examined relationships between spirituality and global measures of well-being, and substantially less attention has been paid to spirituality in daily life. One exception is Ellison and Fan (2008), who used data from a cross-sectional study of more than 1,000 adults. Using the Daily Spirituality Experience Scale (DSES; Underwood & Teresi, 2002), participants reported on the frequency of events in their everyday lives with items such as "I feel guided by God in the midst of daily activities" and "I find strength in my religion or spirituality." They found weaker relationships between spirituality and other outcomes than had been found in prior studies, that is, small positive relationships with social support and quality of life and small negative relationships with perceived stress.

Although these findings support the notion that daily spirituality is positively associated with well-being, this study did not assess daily spiritual experience per se. Instead, participants described how spiritual they felt during a typical day in their lives. Such global reports are subject to numerous types of recall biases compared with reports that are obtained on a daily basis such as the method we used in the present study (e.g., Reis & Gable, 2000).

Studying differences between people who are spiritual and not spiritual using global single-assessment surveys provides a starting point for understanding the implications of spirituality for well-being. Nevertheless, a growing body of research indicates that constructs that have traditionally been conceptualized and studied as stable traits or dispositions also vary meaningfully within individuals (e.g., Fleeson, 2001; Nezlek, 2007; Nezlek & Plesko, 2001, 2003), and the present study was informed by this research. We assumed that feelings of spirituality would vary across time. Moreover, studying within-person relationships between spirituality and well-being may provide additional insights to those provided by studying between-person relationships. For example, between- and within-person relationships between the same constructs are mathematically independent (e.g., Nezlek, 2001), and relationships at the within- and between-person levels may represent different psychological phenomena (e.g., Affleck, Zautra, Tennen, & Armeli, 1999). To our knowledge, no published study has examined within-person (day to day) variability in spirituality.

Our first focus was within-person variability in spirituality. Does spirituality vary within-persons as other constructs have been found to vary, or is it constant in people's lives? Assuming there was within-person variation in spirituality, our second focus was within-person relationships between spirituality and well-being. Based on the existing research at the between-person level, we expected that such relationships

would be positive. On days when they experienced greater spirituality, people would experience greater well-being. This expectation was based on the assumptions that spiritual people are connected to permanent spiritual entities such as God and that stable spiritual beliefs offer guidance through difficult moral decisions and life events. Nevertheless, similar to most belief systems, spiritual people show moments of doubt and a lack of faith, that is, their spirituality varies (Exline & Rose, 2005). The question is whether such moments of doubts are accompanied by a decline in well-being. We hypothesized that they are.

To explore the directionality of these relationships, as our second focus, we examined lagged relationships. Specifically, we examined the relationship between spirituality on day  $n$  and well-being (defined by greater self-esteem, meaning in life, and positive and negative affect) on day  $n + 1$ . We also evaluated the reverse direction of whether today's self-esteem, meaning in life, and affect predicted changes in spirituality tomorrow. We expected that daily spirituality would lead to improved well-being. This expectation is informed by several research studies (Ellison & Fan, 2008; Jackson & Bergeman, 2011; Koenig, 1994; Levin & Chatters, 1998; Patrick & Kinney, 2003), with the findings of each indicating that religiousness and spirituality have robust associations with these dimensions of well-being.

Our third focus concerned between-person differences in such within-person relationships. We expected that dispositional (trait) spirituality would moderate within-person associations between spirituality and well-being. This expectation was based on the likelihood that spiritual perceptions and experiences are a more salient or central part of an individual's self-concept or self-definition for individuals higher in trait spirituality than they are for individuals lower in trait spirituality. Due to this greater centrality, within-person relationships between daily spirituality and well-being should be stronger for more spiritual than for less spiritual people. Within-person variability in spirituality is more meaningful for people who are more dispositionally spiritual than it is for people who are less dispositionally spiritual. To recap, the present study was guided by the following expectations and hypotheses.

*Hypothesis 1:* Similar to other constructs that have traditionally been considered as traits or dispositions, we expected that spirituality would vary within persons, that is, across time and measurement occasions (days in our case).

*Hypothesis 2:* Similar to relationships at the between-person level, we expected that within-person relationships between daily spirituality and well-being would be positive.

*Hypothesis 3:* Within-person relationships between spirituality and well-being would be stronger for people who were more dispositionally spiritual than for those who were less dispositionally spiritual.

## Method

### Participants

Participants were 150 college students (76.5% Women; 60% Caucasian; mean age = 21.62,  $SD = 2.36$ ) who participated for course credit. Of these participants,<sup>1</sup> 87 completed questions about daily spirituality (80.5% Women; 54.7% Caucasian, 10.5% African American, 10.5% Asian American, 9.3% Hispanic, 7% Middle Eastern, 1.2% Native American, and 7% Other; mean age = 21.13,  $SD = 2.17$ ). As for endorsed religious affiliation, 6.9% explicitly defined themselves as Atheist followed by 34.5% Catholic, 18.3% Protestant, 5.7% Islamic, 4.6% Eastern Orthodox, 3.4% Buddhist, 1.1% Latter-Day Saints, and 25.2% Other. Unfortunately, we failed to include Jewish and Agnostic as responses, so we could not determine the number of people in the Other category who were religious in terms of these categories.

### Procedure

Participants were recruited via flyers and online advertisements. Small groups of participants attended meetings (1.5 hr) during which instructions were given about web-based daily data collection. After completing self-report questionnaire packets, participants were guided through a secure, dedicated website for collecting daily reports. Participants were asked to complete their daily reports at the end of each day (before going to sleep) for 2 weeks. We wanted to collect two weekends of data, and so the mean number of recorded responses for some participants was greater than 14 days.

Researchers emphasized the confidentiality of participants' data and the importance of compliance, and explained that entries were date and time stamped. Throughout the study, participants received weekly email reminders. All instructions were available online. Eighty-seven participants provided 1,239 valid daily entries ( $M = 14.24$ ,  $SD = 2.10$ ), and all participants provided at least 9 valid entries. A valid entry was defined as one entered between 6:00 p.m. of the day in question and 9:00 a.m. of the following day.

### Trait Spirituality

At the initial session, participants completed the 22-item Spiritual Involvement and Beliefs Scale (SIBS-R; Hatch, Burg, Naberhaus, & Hellmich, 1998). Hatch et al. (1998) reported that the SIBS was internally reliable ( $\alpha = .92$ ) and had good test-retest reliability (.92). Participants used a 7-point scale with endpoints labeled 1 = *strongly disagree* to 7 = *strongly agree*. The SIBS has four subscales, Core Spirituality, Spiritual Perspective/Existential, Personal Application/Humility, and Acceptance/Insight. For the present study, trait spirituality was defined in terms of scores on the 15-item Core Spirituality subscale that contained items such as "I have a personal relationship with a power greater than myself" and "I solve my problems without using spiritual

resources" (reversed). The mean score was 60.8 ( $SD = 20.3$ ,  $\alpha = .92$ ), ranging from 21 to 103. Trait spirituality scores were standardized prior to analysis.

### Daily Measures

At the end of each day of the study, participants logged onto a secure website to provide daily measures of spirituality, self-esteem, and meaning in life. Daily measures used modifications of items from corresponding trait measures reworded for daily administration. This rewording included a specific focus on the day as the unit of analysis. This method of developing state-level analogs of trait measures has been used successfully in the past. See Nezlek (2005) for examples and Nezlek (2012, p. 33) for a more detailed description of this process. All daily items were measured with 7-point scales.

Daily spirituality was measured using two items from the core component of the SIBS-R. Starting with the stem "Today . . ." participants indicated the extent to which "The spiritual part of my life was very important to me" and "My personal relationship with a power greater than myself was important to me." They answered using scales with endpoints labeled "not at all characteristic of me" and "very characteristic of me." Daily self-esteem was measured using four items adopted from the Rosenberg Self-Esteem Scale (Rosenberg, 1965) that have been used in prior research. Starting with the stem "Today . . ." participants indicated their agreement with the following statements: "I felt like a failure," "I felt like I had many good qualities," "I thought I was no good at all," and "On the whole, I was satisfied with myself." Participants answered using scales with endpoints labeled "Very uncharacteristic of me today" and "Very characteristic of me today." Daily meaning in life was measured with a two-item scale from prior research ("How meaningful did you feel your life was today?" "How much did you feel your life had purpose today?"; Kashdan & Steger, 2007). Participants answered using scales with endpoints labeled "not at all" and "very much." Daily negative affect was measured by responses to six adjectives (nervous, embarrassed, upset, disappointed, bored, and sad), and daily positive affect was measured by responses to six adjectives (enthusiastic, excited, happy, calm, satisfied, and relaxed). Participants answered using scales with endpoints labeled "Did not feel this way at all" and "Felt this way very strongly."

## Results

### Preliminary Analyses

We examined whether our final sample of 87 participants differed from the 63 excluded participants. Our final sample did not significantly differ from the excluded group in the number of days they completed the daily diary ( $p = .14$ ; Effect Size (ES)  $d = .23$ ), gender ( $p = .06$ ; ES  $d = .32$ ), trait spirituality ( $p = .60$ ; ES  $d = .11$ ), or daily measures of meaning

**Table 1.** Summary Statistics of Daily Measures

	M	Variance		Item-level reliability
		Between	Within	
Spirituality	2.74	3.24	0.68	.71
Self-esteem	5.32	0.68	0.91	.61
Meaning in life	4.44	1.16	1.42	.83
Negative affect	2.24	0.48	0.80	.64
Positive affect	4.15	0.47	1.58	.80

in life ( $p = .34$ ;  $ES d = .15$ ), negative affect ( $p = .46$ ;  $ES d = .12$ ), and positive affect ( $p = .59$ ;  $ES d = .09$ ). Our final sample was slightly younger ( $M = 21.18$ ,  $SD = 2.22$ ) than the excluded group ( $M = 22.30$ ,  $SD = 2.46$ ),  $t = 2.95$ ,  $p = .004$ ,  $ES d = .48$ , and their daily self-esteem was slightly lower ( $M = 5.32$ ,  $SD = 0.86$ ) than the excluded group ( $M = 5.62$ ,  $SD = 0.72$ ),  $t(149) = 2.60$ ,  $p = .01$ ,  $ES d = .41$ . In sum, there were few substantial differences between the initial and final samples.

### Overview of Primary Analyses

The analyses focused on within-person relationships between spirituality, self-esteem, and meaning in life. The data were conceptualized as hierarchically nested, that is, days nested within persons, and they were analyzed with a series of multilevel models using the program HLM (Raudenbush, Bryk, Cheong, & Congdon, 2000). Our analyses followed guidelines and procedures described by Nezlek (2001, 2011, pp. 71-104).

### Daily Measures: Descriptive Statistics

The reliability of the daily measures was examined by conducting model with items nested within days and days nested within people (Nezlek, 2011, pp. 44-48). These analyses found that the two spirituality items, the four self-esteem items, the two meaning in life items, and the two sets of affect measures formed reliable scales. These reliability estimates are presented in Table 1. Accordingly, daily measures were defined as the mean response to the items for each scale.

As shown in Table 1, these analyses suggested that there was sufficient within-person variability for all measures to provide a basis for conducting within-person (day-level) analyses. Moreover, there was some within-person variability for all of the participants in the study for all three daily measures. No person reported a constant, unchanging level of any of the daily measures.

### Daily Spirituality and Daily Well-Being

Our initial analyses examined within-person relationships between daily spirituality and daily well-being. In these

analyses, well-being (self-esteem, meaning in life, and the two affect measures) was the dependent measure and daily spirituality was the predictor. Daily spirituality was entered group-mean centered. This meant that coefficients described relationships between deviations from a person's mean score on daily spirituality and the outcome measure. Moreover, these analyses controlled for individual differences in mean daily spirituality. The model is below. The null hypothesis in these analyses was that the mean within-person relationship between spirituality and a measure of well-being was 0. This was tested by the  $\gamma_{10}$  coefficient in the last of the three equations below.

$$\text{Day level: } y_{ij} = \beta_{0j} + \beta_{1j} (\text{Daily Spirituality}) + r_{ij}$$

$$\text{Person-level intercept: } \beta_{0j} = \gamma_{00} + u_{0j}$$

$$\text{Person-level slope: } \beta_{1j} = \gamma_{10} + u_{1j}$$

As predicted, within-person relationships between spirituality and self-esteem were positive ( $\gamma_{10} = .12$ ,  $t = 2.87$ ,  $p < .01$ ) as were within-person relationships between spirituality and meaning in life ( $\gamma_{10} = .27$ ,  $t = 5.19$ ,  $p < .01$ ). Daily spirituality was positively related to positive affect ( $\gamma_{10} = .12$ ,  $t = 2.01$ ,  $p < .05$ ) but was not significantly related to negative affect ( $\gamma_{10} = .01$ ,  $t < 1$ ).

Given that spirituality was related to self-esteem, meaning in life, and positive affect, relationships that have been described as psychological benefits of spirituality (e.g., George, Larson, Koenig, & McCullough, 2000; Park, 2007), we examined possible mediational relationships among these constructs. To test for mediation, we followed the approach outlined in Bauer, Preacher, and Gil (2006). The results of these analyses were quite clear. The direct relationship between daily spirituality and self-esteem, and daily spirituality and positive affect, was no longer significant when daily meaning in life was entered into the analyses. According to calculations suggested by Bauer et al. (2006), there were statistically significant indirect effects such that meaning in life accounted for 93.3% of the overall effect of daily spirituality on self-esteem (Indirect Effect (IE) = .05,  $SE = .02$ , 95% confidence interval [CI] = [.0005, .10]) and 100% of the overall effect of daily spirituality on positive affect (IE = .04,  $SE = .01$ , 95% CI = [.01, .06]). That is, daily measures of meaning in life fully mediated the relationship between daily spirituality and both daily self-esteem and positive affect.

We also tested the possibility that daily self-esteem mediated relationships between daily spirituality and both meaning in life and positive affect. The direct relationship between daily spirituality and meaning in life remained statistically significant when daily self-esteem was entered into the analyses; daily self-esteem accounted for 34.4% of the overall effect of daily spirituality on meaning in life. Although this reflected a relatively large amount of variance, the variance explained was far less than the prior model with meaning in life as a mediator. In contrast, there was a statistically

significant indirect effect such that self-esteem accounted for 96.5% of the overall effect of daily spirituality on positive affect ( $IE = .03$ ,  $SE = .01$ , 95%  $CI = [.01, .04]$ ).

Finally, we tested positive affect as a mediator of relationships between daily spirituality and both meaning in life and self-esteem. We found that daily positive affect accounted for 28.4% of the overall effect of daily spirituality on meaning in life ( $IE = .04$ ,  $SE = .01$ , 95%  $CI = [.02, .07]$ ) and 64.1% of the overall effect of daily spirituality on self-esteem ( $IE = .02$ ,  $SE = .01$ , 95%  $CI = [.01, .03]$ ). Thus, when attempting to understand the link between daily spirituality and well-being, daily positive affect accounted for much less variance compared with meaning in life and self-esteem.

Overall, we found the strongest evidence for a particular directional model such that the within-person association between spirituality and self-esteem was entirely explained by the presence of meaning in life on a given day, and the association between spirituality and positive affect was entirely explained by meaning in life or self-esteem on a given day.

### Construct Specificity: Comparison to Daily Religiosity

This article focused on spirituality under the assumption that spirituality is an overarching construct that subsumes religiosity. For example, nearly all religious people are spiritual, whereas a large number of spiritual people do not describe themselves as religious (Hill et al., 2000; Zinnbauer et al., 1997). Nevertheless, we collected a two-item daily measure of religiosity: "How strong was God's presence in your life?" and "To what extent did your religious principles guide your behavior?" Item-level reliability for this scale was .67, which was comparable to our measure of daily spirituality (.71). Our inclusion of a measure of daily religiosity allowed us to test where effects for daily spirituality are due to shared variance with religiosity.

As expected, a multilevel analysis found that daily spirituality and daily religiosity were positively related ( $\gamma_{10} = .28$ ,  $t = 10.06$ ,  $p < .001$ ). To control for the relationships found between spirituality and other constructs for daily differences in religiosity, we conducted multilevel analyses with daily spirituality and daily religiosity as predictors of well-being. After controlling for daily religiosity, the within-person relationships between spirituality and self-esteem and between spirituality and meaning in life remained positive and statistically significant (self-esteem:  $\gamma_{10} = .10$ ,  $t = 3.07$ ,  $p < .01$ ; meaning in life:  $\gamma_{10} = .19$ ,  $t = 3.07$ ,  $p < .01$ ). In contrast, daily religiosity was not significantly related to self-esteem ( $p = .13$ ), although it was related to daily meaning in life ( $\gamma_{10} = .07$ ,  $t = 2.38$ ,  $p < .05$ ). When positive affect was regressed on daily religiosity and daily spirituality, the coefficient for daily religiosity was significant ( $\gamma_{20} = .05$ ,  $t = 2.32$ ,  $p < .05$ ) and the coefficient for daily spirituality was not ( $p = .18$ ). Neither daily spirituality nor religiosity was significantly related to daily negative affect ( $ps > .30$ ) when analyzed

together. Taken together, these results suggest that for the two primary outcomes, self-esteem and meaning in life, the effects of daily spirituality were not due to the variance shared by spirituality and religiosity.

### Trait Spirituality and Mean Daily Measures

Next we examined relationships between trait spirituality and the means of our daily measures. In these analyses, daily spirituality, self-esteem, and meaning in life were dependent measures, and trait spirituality was entered at Level 2. The model is as shown below:

$$\text{Day level: } y_{ij} = \beta_{0j} + r_{ij}$$

$$\text{Person level: } \beta_{0j} = \gamma_{00} + \gamma_{01} (\text{Trait Spirituality}) + u_{0j}$$

The analyses indicated that trait spirituality was positively related to daily spirituality ( $\gamma_{01} = 1.37$ ,  $t = 12.9$ ,  $p < .01$ ), self-esteem ( $\gamma_{01} = .20$ ,  $t = 2.57$ ,  $p = .01$ ), and meaning in life ( $\gamma_{01} = .29$ ,  $t = 2.69$ ,  $p < .01$ ). Trait spirituality was negatively related to negative affect ( $\gamma_{01} = -.25$ ,  $t = 3.38$ ,  $p < .01$ ) but was not significantly related to positive affect ( $\gamma_{01} = -.01$ ,  $t < 1$ ).

### Trait Spirituality as a Moderator of Relationships Between Daily Spirituality and Daily Well-being

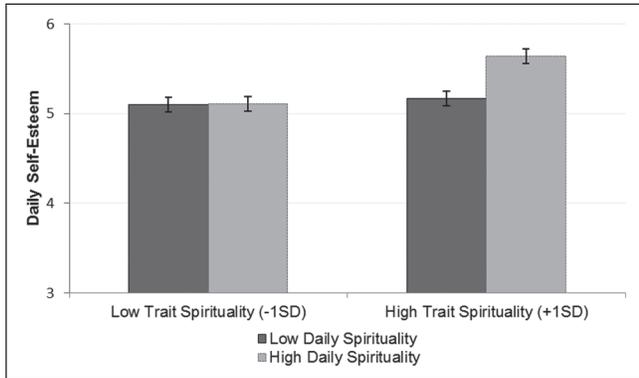
Next, we examined how trait spirituality moderated the within-person relationships between daily spirituality and daily well-being, with daily well-being as dependent measures. The models are as shown below:

$$\text{Day level: } y_{ij} = \beta_{0j} + \beta_{1j} (\text{Daily Spirituality}) + r_{ij}$$

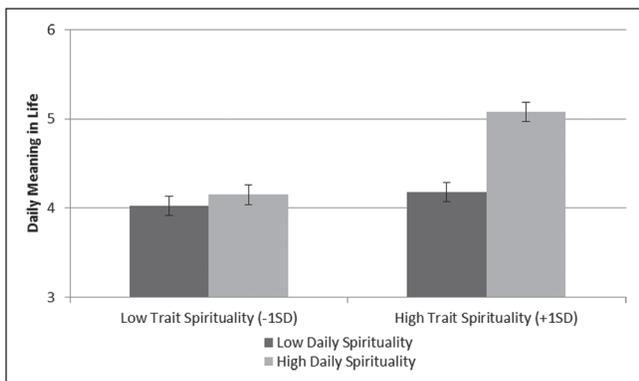
$$\text{Person-level intercept: } \beta_{0j} = \gamma_{00} + \gamma_{01} (\text{Trait Spirituality}) + u_{0j}$$

$$\text{Person-level slope: } \beta_{1j} = \gamma_{10} + \gamma_{11} (\text{Trait Spirituality}) + u_{1j}$$

The analyses indicated that trait spirituality moderated relationships between daily spirituality and self-esteem ( $\gamma_{11} = .10$ ,  $t = 2.21$ ,  $p < .05$ ) and meaning in life ( $\gamma_{11} = .22$ ,  $t = 5.61$ ,  $p < .001$ ); no such findings were found for positive ( $\gamma_{11} = .05$ ,  $t < 1$ ) or negative affect ( $\gamma_{11} = -.03$ ,  $t < 1$ ). The nature of the relationships can be understood by estimating predicted slopes for individuals who were high (+1 *SD*) and low (-1 *SD*) in trait spirituality. For a person low in trait spirituality, the within-person relationship between daily spirituality and self-esteem was near zero (-.01), whereas for someone high in trait spirituality, it was positive (.19). Similarly, for a person low in trait spirituality, the within-person relationship between daily spirituality and meaning in life was near zero (-.03), whereas for someone high in trait spirituality, it was



**Figure 1.** Interaction effect of trait and daily spirituality on daily self-esteem  
 Note: The error bears reflect the standard errors.



**Figure 2.** Interaction effect of trait and daily spirituality on daily meaning in life  
 Note: The error bears reflect the standard errors.

positive (.39). These findings suggest that for more spiritual individuals, daily spirituality is positively related to their well-being, whereas for less spiritual people it is not related (see Figures 1 and 2).

The majority of variance in daily spirituality was between persons (see Table 1), and such a distribution of variance could have been due to various factors. For example, the daily variability of spirituality of people low in trait spirituality may have been lower than it was for those higher in trait spirituality because people low in trait spirituality had rare spiritual occasions. Such a possibility might explain (at least partially) the fact that within-person relationships involving spirituality were weaker for those lower in trait spirituality. There was less variance to model for these people, and so their slopes were weaker. To examine such a possibility, we conducted supplemental analyses that controlled for individual differences in within-person variability in daily spirituality (operationalized as the standard deviation across days).

Consistent with the possibility just described, within-person variability in daily spirituality was positively related

to trait spirituality ( $r = .41, p < .01$ ). Given this, we included within-person variability in daily spirituality as a person-level covariate in our analyses of daily spirituality that included trait spirituality at the person level. When this measure was included, the moderating effects of trait spirituality on the relationships between daily spirituality and daily self-esteem and daily meaning in life remained significant ( $ps < .05$  and  $.001$ , respectively). These results indicate that the moderating effects of trait spirituality on relationships between daily spirituality and well-being were not due to individual differences in within-person variability in daily spirituality.

### Lagged-Day Relationships Between Spirituality and Well-Being

The static, same-day relationships we have discussed so far do not address issues of directionality. To provide further insight into the relationship between spirituality and well-being, we conducted a series of analyses examining lagged relationships (e.g., Nezlek, 2011, p. 49). In one set of analyses, well-being for a day was predicted by spirituality on the previous day (controlling for previous day well-being). In another set of analyses, spirituality for a day was predicted by well-being on the previous day (controlling for previous day spirituality). If the previous day’s well-being predicted present day spirituality controlling for previous day’s spirituality, this would suggest that changes in well-being lead to changes in spirituality. In contrast, if the previous day’s spirituality predicted present day well-being controlling for previous day’s well-being, this would suggest that changes in spirituality lead to changes in well-being.

The models for these analyses are presented below. The critical coefficients are the  $\beta_{2j}$  (Spirituality day  $n - 1$ ) coefficient in the first model, representing the lagged relationship from spirituality to well-being, and the  $\beta_{1j}$  (Well-being day  $n - 1$ ) coefficient in the second model, representing the opposite lag, from well-being to spirituality. The Level 1 (within-person) models that tested these lagged-day effects are presented below. Given that trait spirituality moderated static (within-day) relationships between spirituality and some measures of well-being, we also included trait spirituality in the Level 2 (person level) equations for each of the coefficients.

$$\text{Well-being (day } n)_{ij} = \beta_{0j} + \beta_{1j} (\text{Well-being day } (n - 1)) + \beta_{2j} (\text{Spirituality day } (n - 1)) + r_{ij}$$

$$\text{Spirituality (day } n)_{ij} = \beta_{0j} + \beta_{1j} (\text{Well-being day } (n - 1)) + \beta_{2j} (\text{Spirituality day } (n - 1)) + r_{ij}$$

For meaning in life, we found a lagged relationship from spirituality to meaning in life, but no lagged relationship from meaning in life to spirituality. Previous day’s spirituality was significantly and positively related to present day’s

sense of meaning in life ( $\gamma_{20} = .09, t = 1.95, p < .05$ ), whereas previous day's meaning in life was not related to present day spirituality ( $p > .50$ ). In contrast, in self-esteem analyses, we did not find lagged relationships in either direction (both  $ps > .20$ ). There were no significant moderating effects of trait spirituality for any of the lagged coefficients in these analyses.

For affect, we found a more complex set of associations. Although there were no significant zero-order lagged relationships between spirituality and either measure of affect, trait spirituality served as a moderator. Specifically, trait spirituality moderated the effect of the prior day's negative affect on the present day's spirituality,  $\gamma_{11} = .05, t = 2.03, p = .05$ , and the prior day's positive affect on the present day's spirituality,  $\gamma_{11} = -.03, t = 1.77, p = .08$ ; trait spirituality did not moderate lagged relationships from spirituality to affect.

To interpret these moderating effects, we estimated predicted lagged coefficients for participants who were  $\pm 1 SD$  on trait spirituality. For negative affect, for those high in trait spirituality, the lagged coefficient from negative affect to spirituality was .083, whereas for those low in trait spirituality it was  $-.009$  (functionally 0). So, for those high in trait spirituality, increases in negative affect led to increased spirituality, whereas changes in negative affect did not lead to changes in spirituality for those low in trait spirituality. For positive affect, the pattern was slightly different. For those high in trait spirituality, the lagged coefficient from positive affect to spirituality was  $-.03$ , whereas for those low in trait spirituality it was  $+.03$ . So, for those high in trait spirituality, decreases in positive affect led to small increases in spirituality, whereas for those low in trait spirituality, decreases in positive affect led to small decreases in spirituality.

## Discussion

Although prior research has examined relationships between dispositional (trait) measures of spirituality and well-being, to our knowledge, the present study is the first to examine within-person relationships between day-to-day spiritual experiences and daily well-being. We found meaningful within-person variability in daily spirituality, and within-person relationships between daily spirituality and daily well-being provided insights that complement research comparing spiritual and less spiritual people (between-person approach). Moreover, the results of lagged analyses suggested that changes in a person's sense of meaning in life are due to changes in spirituality, not the reverse. There was some evidence that this relationship characterized meaning in life per se because there was no evidence for lagged relationships between spirituality and self-esteem or affect-based variables.

Our results also suggest that daily spirituality is related to but distinct from trait spirituality. Although the relationship between trait and daily spirituality was significant ( $p < .001$ ), the estimated correlation (following a procedure used by Nezlek & Plesko, 2001) between trait spirituality and daily

mean spirituality was .57, indicating that there was meaningful variability in daily spirituality that was not accounted for by trait spirituality. In addition, our results suggest that the association between spirituality and well-being in daily life varies as a function of individual differences in dispositional (trait) spirituality.

Spirituality might influence the lives of individuals by altering their values and attitudes, beliefs about the self and world, and awareness and comprehension of events with the potential for meaning making (Hogg, Adelman, & Blagg, 2010; Park, 2007; Ysseldyk et al., 2010). Such influences may not exist for all people however. We found that on the same day, greater spirituality was associated with greater quality of life only for people high in trait spirituality. For people low in trait spirituality, we found no evidence that variations in psychological well-being increased on days characterized by stronger spirituality.

Such a moderating relationship may indicate that more (vs. less) dispositionally spiritual people may find it easier to enter into spiritual states, to direct attention to strive for the sacred, and to maintain equanimity by viewing problems in living within a context of life's ultimate concerns (Mayer, 2000; Pargament & Mahoney, 2009). Such a state of "spiritual" consciousness may not be the only pathway from spirituality to well-being, but it may be part of the process. Furthermore, more dispositionally spiritual people may be able to capitalize more on the spiritual feelings they have than the less dispositionally spiritual. Yet, because we only found evidence of this effect on the same day, it is just as likely that for people high in dispositional spirituality, when they felt negatively about themselves or an absence of meaning in their lives, they did not feel particularly spiritual. Of course, this only describes nonaffective reactions to daily events.

Following other researchers (Nezlek, 2005), we separated nonaffective reactions to daily events (meaning in life, self-esteem) from affective reactions. This is because self-evaluative states, such as a sense of meaning in life and positive self-regard, in daily life are related but distinct from the emotions experienced on the same day. Upon turning to affective reactions, we found additional insights about people varying in trait spirituality. On days characterized by high negative affect or low positive affect, people with high trait spirituality responded with an increase in spiritual commitment the next day. This fits with prior research suggesting that spiritual experiences are often spawned by situations involving danger, loss, and adversity (Bonanno, 2004; Bourque & Back, 1971; Joseph & Linley, 2005; Park, 2010). People low in trait spirituality had a distinctly different profile such that less positive affect served as a catalyst for less spirituality the following day. This fits with research suggesting that when individuals lack an easily accessible source to evaluate themselves, other people, and their future, emotional experiences are used as a barometer for overall functioning (King, Hicks, Krull, & Del Gaiso, 2006). Thus, depending on dispositional

spirituality, daily affect appears to operate differently on the subjective experience of spirituality in daily life. Further research is required to address this issue more completely, including the provocative thesis that depending on the person, distress and psychological problems offer a portal to spiritual experiences, commitment, and growth.

The current findings on trait spirituality as a moderator of daily affective and nonaffective reactions fit with conceptual frameworks suggesting that certain personality traits increase sensitivity to particular events. For instance, individuals high in neuroticism show less tolerance for negative life events and individuals high in agreeableness show greater reward responsiveness when social interaction partners are kind and greater pain sensitivity when social interaction partners are quarrelsome (e.g., Côté & Moskowitz, 1998). Ours is the first study to suggest that elevations in dispositional spirituality alter reactions to daily life activities.

Consistent with prior theory (Hogg et al., 2010; Kashdan & McKnight, 2009; McKnight & Kashdan, 2009; Park, 2007; Steger & Frazier, 2005), we found evidence that identification and commitment to a spiritual belief system on a given day provide meaning and purpose in life, which in turn provides a platform for greater self-esteem. We found that daily spirituality was related to daily self-esteem through the joint relationship these two measures had with a measure of meaning and purpose in life. We did not find evidence for the reverse relationship—self-esteem did not mediate the relationship between daily spirituality and meaning and purpose in life. Similarly, the association between daily spirituality and positive affect was fully accounted for by their joint association with meaning and purpose in life; but this link between daily spirituality and positive affect was also fully explained by self-esteem.

Our lagged-day analyses provided further evidence for the unique link between spirituality and meaning in life. Specifically, the prior day's spirituality predicted current daily sense of meaning in life even when the prior day's sense of meaning was controlled; in other words, spirituality predicted greater meaning in life spillover over the course of 2 days. Meaning in life, however, did not predict spirituality spillover in daily life. Thus, the results suggest that changes in spirituality lead to changes in meaning in life, not the reverse. The benefits of spiritual commitment appear to be specific as evidence suggested that spirituality predicted changes in meaning in life but not self-esteem or affect. Positive health is a multidimensional construct and theory and research requires precision in determining the links between these dimensions. Lagged-day analyses in daily diary designs allow for tests of the better of two competing models of directional relationships (e.g., Almeida, 2005; Bolger, Davis, & Rafaeli, 2003). We believe it would be valuable to capitalize on these methodologies and data analytic strategies in future research to evaluate when and how spirituality provides psychological, social, and physical health benefits.

Differences between same-day and lagged-day effects provide evidence for the importance of temporality as a dimension in understanding how personality operates. Our results suggest that the spillover benefits of days characterized by strong spirituality were not dependent on how much an individual was invested in trying to transcend the self (e.g., deepen relationships with God), search for the sacred, and connect to what is perceived as sacred (Hill et al., 2000; Pargament & Mahoney, 2009). Although trait spirituality did not moderate the slopes between affect and spirituality on the same day, people higher in trait spirituality responded to days characterized by high negative affect or low positive affect with greater spiritual commitment the following day.

Only by studying spirituality at these different levels of analysis, and examining how these two levels are related, can we understand the contexts when spirituality is linked to the more frequent, intense, enduring psychological benefits. Defining spirituality, philosophers, scientists, and laypersons cannot avoid descriptions of what spiritual people tend to do and what they tend to experience in daily life (George et al., 2000; Pargament & Mahoney, 2009). As difficult and elusive as spirituality tends to be as a topic of study, instead of relying on self-reported trait measures, it might be more fruitful to focus on the cues listed by Hill et al. (2000):

- 1) the spiritual process of seeking personal/existential meaning; 2) having spiritual experiences such as feeling close to God; 3) feeling a sense of interconnectedness with the world and all living things; and 4) the use of spiritual disciplines such as meditation or yoga. (p. 62)

The current findings suggest that addressing daily experiences and temporality matters, as links between spirituality and meaning in life carry over from one day to the next, whereas relations with self-esteem appear to be shorter in duration, and poor mental health, defined by high negative affect or low positive affect, appeared to carry over from one day to the next, leading to greater spiritual commitment for people high in trait spirituality. Ignoring the distinctions between individuals and their experiences can lead to faulty conclusions about the inner workings of spirituality and how and when benefits arise (e.g., Emmons, 2005; George et al., 2000) and costs incurred (e.g., Exline & Rose, 2005).

Although this study was correlational and cannot directly address questions of causality, previous experimental research has shown that spiritual individuals primed with spiritual ideas or images show more stable, elevated levels of meaning in life (Hicks & King, 2008), less defensive reactions to social threats (Aydin, Fischer, & Frey, 2010), and faster, more effective self-regulation in stressful situations (Weisbuch-Remington, Mendes, Seery, & Blascovich, 2005). Taken together, the present study and previous cross-sectional and experimental research provide converging evidence that individuals who are more dispositionally spiritual

show a stronger association between well-being and momentary or transitory spiritual states. Moreover, momentary spiritual states show a distinct pattern, predicting fluctuations in meaning in life spillover over the course of 2 days (spillover effects). Future research is needed to replicate and extend the present findings perhaps using behavioral and/or nonobtrusive measures of spiritual commitment and psychological well-being.

This study has several implications for the study of spirituality. First, it extends previous research linking spirituality and well-being (George et al., 2000; Myers, 2000) by providing the first evidence disentangling variability in spiritual experiences and commitment in daily life from trait spirituality. Second, we found evidence suggesting that on days when people feel that their lives are more meaningful or feel better about themselves, they also feel more spiritual, and that this association was stronger for individuals who have greater baseline spirituality. Third, the research suggests a specific sequence of events with feelings of spiritual commitment on a given day predicting a greater sense of meaning in life the next day. This temporal effect was unaffected by individuals' dispositional spirituality. Future research should continue to explore when people low in trait spirituality benefit or fail to benefit from spiritual moments, and the mechanisms of meaning and purpose in life should be compared with other proposed links between spirituality and health, such as self-control (McCullough & Willoughby, 2009) with measurement approaches beyond self-reports. Fourth, in tests of construct specificity, we found evidence that the effects of daily spirituality on daily self-esteem and meaning in life remained even after stringently controlling for shared variance with daily religiosity.

Several limitations should be noted. First, findings from the current college student sample might not be generalizable to other samples. Second, due to the small number of individuals who could be definitively classified as atheists, we could not compare religious and nonreligious individuals. A refined understanding of the benefits of being a spiritual person, and the benefits of transient spiritual experiences, will require examinations of people across the continuum of spiritual beliefs. Third, for practical reasons, we created brief daily measures of spiritual commitment and well-being, and future research might examine other facets of these complex constructs. Fourth, all daily entries were completed at the termination of each day, as opposed to random momentary assessments throughout the day. Thus, despite the benefit of our within-person, repeated measurement approach, daily reports were somewhat retrospective and may have been biased in some way because of this. However, because our focus was on subjective experiences and not discrete life events, end-of-day reports are arguably a more useful strategy for individuals to evaluate their quality of life (Reis & Gable, 2000). Fifth, in the absence of prior work on daily spirituality, our theoretical framework on the potential synergy between dispositional and daily spirituality arose from research in other personality domains. The current findings

offer a unique window into the ebb and flow of day-to-day spirituality that we hope informs future research as well as more sophisticated theoretical frameworks.

Our results suggest that spirituality, similar to other individual differences, is best conceptualized as both a state and a trait, and understanding the phenomenology, correlates, and consequences of spirituality requires examination of both aspects of spirituality simultaneously. Prior studies have ignored the interplay between states and traits, particularly when dealing with ultimate concerns such as spirituality and religiosity. This study offers a starting point to more sophisticated research on when and how spirituality confers psychological, social, and physical benefits, including the conditions when being guided by the search for the divine and sacred leads to problems in living.

Our findings add to a large body of single-occasion, correlational studies that consistently show how being a spiritual person has a modest, positive association with various indices of health and well-being. The current study is the first to use a daily process approach to investigate the benefits of spirituality both as a trait and psychological state in everyday life. On highly spiritual days, any increases in self-esteem appear to be a function of the stable sense of meaning and purpose that this belief system provides. In addition, meaning in life appears to be a consequence of spiritual commitment in daily life, with no evidence for the reverse. In sum, we have shown that greater spirituality is beneficial and that the enhanced well-being of highly spiritual people is conditioned on the quality of spiritual experiences on a given day.

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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### Note

1. Of the 63 people ineligible for analysis, 18 were deleted because of an extensive amount of missing data on initial questionnaires, including gender, age, and race/ethnicity. Thus, daily spirituality questions were simply one more area where these participants did not complete questions. An additional 8 participants dropped out of the study before starting the daily diary portion. As for the remaining 37, we had no responses from them to the spirituality items or to other items that were on the same electronic page as spirituality. This means that we could not determine whether they decided not to answer every spirituality question (and other, unrelated questions) for every day of the study, or if they were not able to access the electronic page

of the online daily diary containing the spirituality questions. We suspect the latter, that is, some type of malfunction for a subset of participants for a single page of the daily diary portion of the study. Due to the relatively random nature of these missing data, and the few differences between this group and the group retained for analysis, we do not believe that excluding these participants biased our results.

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