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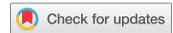
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Meaning Violations, Religious/Spiritual Struggles, and Meaning in Life in the Face of Stressful Life Events

Judith E. Appel [a,b], Crystal L. Park [a], Jennifer H. Wortmann [c], and Hein T. van Schie [b]

aDepartment of Psychological Sciences, University of Connecticut, Storrs, CT, USA; bBehavioural Science Institute, Radboud University Nijmegen, Nijmegen, the Netherlands; cDurham VA Medical Center and Mid-Atlantic Mental Illness Research, Education, and Clinical Center, Durham, NC, USA

ABSTRACT

Both meaning violations (i.e., discrepancies between individuals' global meaning system and appraised meaning of events) and religious/spiritual (r/s) struggles (i.e., spiritual tensions often arising due to stressful life events) have been related to post-traumatic stress (PTS) symptoms. While both constructs represent strain on an individual's meaning system, their interrelations and their independent relationships with PTS symptoms are not well understood. The aim of the current study was to explore those relations and investigate whether a sense of meaning in life (MIL) attenuates the hypothesized links. One-hundred-eighty-nine college students (78.3% female) who could identify a stressful life event that they had not yet resolved completed self-report measures of PTS symptoms, r/s struggles, meaning violations, and MIL. First, bivariate Pearson correlations indicated that all facets of r/s struggle and goal- (but not belief) violations, were significantly and positively related to PTS symptoms. Further, the association between goal and belief violations and r/s struggles differed based on the specific facet of struggle measured. Second, multiple regression analysis showed that both r/s struggles and goal violations were independently associated with PTS symptoms. Third, moderation analyses demonstrated that a sense of MIL attenuated the association between goal violations and symptomatology but only buffered the correlates of low and medium levels of r/s struggle. Promoting people's general sense of MIL thus seems to have the potential to buffer the negative sequelae of both goal violations and certain levels of r/s struggle.

More than half of college students experience at least one stressful life event during a single year of college (Cox, Reason, Nix, & Gillman, 2016). Stressful life events can trigger a variety of responses, with the development of post-traumatic stress (PTS) symptoms being a severe reaction on the stress-response continuum (Long et al., 2008; Ruscio, Ruscio, & Keane, 2002). PTS symptoms involve re-experiencing, avoidance, arousal, and reactivity as well as negative changes in thoughts and mood, and have been associated with severe impairments in quality of life (Pagotto et al., 2015; Rapaport, Clary, Fayyad, & Endicott, 2005).

Most current theories of PTS symptom development are cognitive in nature (e.g., Beck, Jacobs-Lentz, McNiff, Olsen, & Clapp, 2014; Dalgleish, 2004; Ehlers & Clark, 2000). Specifically, stressful life events are often hypothesized to elicit PTS symptoms through their influence on meaning systems, broadly understood as an individual's views about the world (e.g., Foa & Riggs, 1993; Horowitz, 1986). For instance, the shattered assumptions theory posits that an individual holds assumptions about the world (e.g., about fairness and predictability) that enable efficient functioning by

contributing to a sense of meaningfulness and competence (Janoff-Bulman, 1992). Experiencing a stressful life event can disrupt those assumptions, thereby hampering normal functioning and facilitating the development of PTS symptoms.

The crucial role of violations of existing meaning systems in PTS was elaborated in Park's (2010) meaning-making model. According to this model, experiencing a stressful event entails an initial appraisal of the event's meaning (Lazarus & Folkman, 1984), which is then compared to an individual's global meaning system to determine whether there is a discrepancy between the appraised and global meaning. These so-called meaning violations are hypothesized to lead to feelings of distress, a prediction supported by established links between meaning violations and stress severity as well as PTS symptoms (George, Park, & Chaudoir, 2016; Park, Mills, & Edmondson, 2012; Steger, Owens, & Park, 2015). Importantly, the global meaning system as described in this model consists not only of global beliefs (e.g., concerning control and fairness; Koltko-Rivera, 2004) but also of global goals (e.g., relationships, health, achievement; Emmons, 2003). Thus, an event can violate an individual's beliefs, but can also interfere with his or her goals – states an individual wants to achieve or preserve. For example, the loss of a loved one could, simultaneously or independently, violate beliefs that the world is a fair and safe place and obstruct goals of intimacy and social support. While research has mainly focused on the influence of belief violations on PTS (Ben-Ezra, Hamama-Raz, Mahat-Shamir, Pitcho-Prelorentzos, & Kaniasty, 2017; Cox, Resnick, & Kilpatrick, 2014; Schuler & Boals, 2016), studies investigating both belief and goal violations suggest that the latter might even have stronger associations with PTS symptoms (Park, 2008; Park & Gutierrez, 2013; Steger et al., 2015). These findings highlight the unique role of specific violations in the development of PTS.

Exposure to stressful life events often violates explicitly religious aspects of meaning systems (Pargament, Smith, Koenig, & Perez, 1998; Park, Currier, Harris, & Slattery, 2017), which can be reflected in religious/spiritual (r/s) struggles (Exline, 2013; Harris et al., 2008). Put differently, religiousness/spirituality can be viewed as a meaning system that provides guidance in dealing with stressful life events (Park, 2005, 2013), with r/s struggles representing a strain on that meaning system (Pargament, Desai, & McConnell, 2006). Correspondingly, r/s struggles are conceptualized as "signs of spiritual disorientation, tension, and strain" (Pargament, 2007, p. 112) which often arise in response to stressful life events (Ano & Pargament, 2013) and are related to a variety of negative outcomes, such as amplified distress and depressive feelings (Abu-Raiya, Pargament, Krause, & Ironson, 2015; Currier, McDermott, McCormick, Churchwell, & Milkeris, 2018; Park, Holt, Le, Christie, & Williams, 2018; Wilt, Grubbs, Pargament, & Exline, 2017; for a review see Exline & Rose, 2013). Just as global meaning violations do, r/s struggles seem to play a role in a worsened course of PTS symptomatology (Aflakseir & Coleman, 2009; Currier, Holland, & Drescher, 2015; Park et al., 2017; Wortmann, Park, & Edmondson, 2011).

While different categories of r/s struggles can be distinguished, such as demonic struggles, inter-personal struggles, and intrapersonal struggles (e.g., Abu-Raiya, Pargament, & Exline, 2015), divine struggles appear especially relevant for poor mental and physical health outcomes (Ellison & Lee, 2010; Pargament, Koenig, & Perez, 2000) as well as for PTS symptoms in particular (Wortmann et al., 2011). Divine struggles include spiritual discontent – which entails feelings of disorientation and anger in regard to one's relationship with God, reappraisal of God's powers – characterized by a questioning of God's power to alter the stressful life event, and punishing God reappraisal – experiencing the event as a punishment for one's sins (Pargament et al., 2000). Divine struggles thus represent both a disruption in beliefs (e.g., in order, predictability, and benevolence in the universe) and goals (e.g., connection with a higher power and accompanying experiences of intimacy, security).

Theoretically, global meaning violations and r/s struggles are thus closely related through their mutual feature of representing strain on people's meaning systems; global meaning violations have been described as concerning an individual's whole meaning system (Park, 2010), while r/s struggles refer to violations of the explicitly spiritual part of that meaning system (Pargament et al., 2000; Park, 2005). In line with this view, empirical studies demonstrate that both constructs arise in response to

stressful life events and elicit distress and PTS symptoms (e.g., Ano & Pargament, 2013; Exline & Rose, 2013; Park, 2010).

The possible *interrelations* between meaning violations and r/s struggles in the face of stressful events, however, are not well researched. In particular, three questions can be asked based on their supposed connection. Firstly, while theoretically meaning violations and r/s struggles should be related, we could only locate one study that empirically examined their associations (Exline, Park, Smyth, & Carey, 2011). This study investigated relations between meaning violations and anger toward God as a measure of r/s struggle in cancer survivors and demonstrated significant but moderate-sized associations between them. Furthermore, at two time points, belief violations were slightly more strongly related to anger toward God than were goal violations. How other facets of r/s struggle relate to goal and belief violations as well as symptomatology in individuals who experienced stressful life events remains to be understood.

Secondly, if global meaning violations represent a strain on a global meaning system that includes religious meaning, the association between r/s struggles and symptomatology might be attenuated when simultaneously assessing the relationship between global meaning violations and symptoms. Up until now, however, the association between each of these constructs and symptoms has only been investigated separately. A better understanding of their interplay and independent relationships with PTS symptoms will not only increase our knowledge about the most important targets for intervention but also shed light on the relative importance of a religious/spiritual meaning system when facing stressful life events.

Thirdly, if both meaning violations and r/s struggles represent a strain on an individual's meaning system, their negative effects on PTS symptoms might be similarly buffered by the same construct. For instance, a strong sense of meaning in life (MIL) might protect against the negative consequences of both global meaning violations and r/s struggles, by enabling individuals to better deal with strains on their meaning system. MIL concerns "the sense made of, and significance felt regarding, the nature of one's being and existence" (Steger, Frazier, Oishi, & Kaler, 2006, p. 81). MIL thus refers to the subjective sense of meaning experienced by an individual, rather than to specific beliefs about the world or goals pursued.

A higher sense of MIL has not only been related to better mental health outcomes in a variety of populations (Blackburn & Owens, 2015; Brassai, Piko, & Steger, 2011; Steger & Kashdan, 2013; Winger, Adams, & Mosher, 2016) but also has been shown to moderate the relationship between stressful life events and negative outcomes (Cohen & Cairns, 2012; Halama & Bakosova, 2009; Haynes et al., 2017; Krause, 2007; Marco, Guillén, & Botella, 2017; Mascaro & Rosen, 2006; Szymanski & Mikorski, 2016). A recent study additionally demonstrated a buffering effect of MIL on the relationship between sacred loss (i.e., the perceived loss of the sacred character of parts of one's life) and indicators of physical health (Krause, Pargament, & Ironson, 2018). MIL should mitigate the violations of meaning systems due to a specific event because higher MIL implies that individuals have beliefs and goals that provide a sense of meaning even in the face of those violations. Investigating whether a sense of MIL attenuates associations between meaning violations and r/s struggles on the one hand, and PTS symptomatology, on the other hand, will show whether the negative sequelae of a variety of violations can be attenuated by the same construct. This knowledge has the potential to inform prevention strategies.

Summarizing, we examined the following research questions:

(1) What are the interrelations between (different facets of) meaning violation, r/s struggle, and PTS symptoms in individuals who have experienced a stressful life event? We hypothesized that all facets of meaning violation and r/s struggle are positively related to PTS symptoms. Further, we expected positive associations between the different facets of struggle and meaning violation, but we did not have strong hypotheses about the magnitude of specific pairwise correlations.

(2) Are meaning violations and r/s struggles independently related to PTS symptoms? Based on the conceptualization of struggles as a strain on one component of an individual's meaning system, we hypothesized that meaning violations will remain a significant predictor of PTS symptoms when accounting for the amount of r/s struggle, while the relationship between r/s struggles and symptomatology will become non-significant when accounting for global meaning violations.

(3) Does MIL moderate the relationship between (a) meaning violations and PTS symptoms, and (b) r/s struggles and PTS symptoms? We hypothesized that MIL would buffer both relationships, in that individuals with high levels of MIL will show weaker associations between violations/struggles and symptoms than will individuals with lower levels of MIL.

To examine those questions, we analyzed data from a sample of college students who had experienced a stressful life event that they had not yet resolved. Their global sense of meaning in life, as well as their experience of meaning violations and r/s struggles in response to the stressful life event, were examined using a cross-sectional design.

Method

Participants and procedure

The data for the present study were collected as part of a longitudinal study on the resolution of r/s struggles. A total of 193 undergraduate students from a large public university in the Northeastern United States took part in the study. Students were recruited during three semesters via the Psychology Department participant pool. To ensure sufficient presence of meaning violations and struggles in the sample, only students who had experienced an unresolved and distressing personal event were included. This information was assessed by adding a prompt about a personal, negative event as well as event-related questions to the standard participant pool pre-screening. Eligible students who consented to participate were emailed a survey consisting of demographic questions and measures of meaning in life and religiousness. They then had to identify a stressful (target) event, and complete event-related measures (for the order of presentation see Measures – Main Survey). Students whose responses indicated that they were not engaged with the study (e.g., no complete writing response, internally inconsistent responses) were excluded from analyses ($n= 4$), resulting in a final sample of 189 participants. Ethical approval was obtained from the institutional review board of the University of Connecticut.

Measures – pre-screening

Closure

The amount of resolution of the identified event was measured by the agreement participants expressed with five statements (e.g., "I have put the event behind me completely"), on a scale from 1 (*completely disagree*) to 10 (*completely agree*), with higher scores indicating more psychological closure. A mean score of less than or equal to eight was seen as indicative of an unresolved event, and thus of possible inclusion in the study. The items have shown good psychometric properties in an undergraduate sample (Beike & Wirth-Beaumont, 2005; Boals, Banks, Hathaway, & Schuettler, 2011).

Event-related distress

Participants rated the question "How distressing is the event currently for you?" on a scale from 1 to 100 (based on Foa, Hembree, & Rothbaum, 2007). A score of higher than one was regarded as qualifying for participation.

Measures – main survey

Demographics
Participants were asked to indicate their date of birth, gender, and ethnicity. Age was calculated as the difference between someone's date of birth and the date of study completion.

Meaning in life
The presence of meaning subscale of the Meaning in Life Questionnaire (MLQ; Steger et al., 2006) was used to assess as how meaningful participants experienced their lives. It consists of five items (e.g., "I understand my life's meaning") rated on a scale from 1 (*absolutely untrue*) to 7 (*absolutely true*). Satisfactory validity and reliability have been demonstrated in various samples (Schulenberg, Strack, & Buchanan, 2011; Steger et al., 2006), and Cronbach's alpha was .88 in the present sample. We used the mean score for analyses.

Religiousness
To evaluate the religiousness of the sample, public religious activities, private religious activities, religious and spiritual identity, and religious preference were assessed using subscales from the Brief Multidimensional Measurement of Religiousness/Spirituality for Use in Health Research (BMMRS; Abeles et al., 1999), an instrument with sound psychometric characteristics (Idler et al., 2003). Frequency of public religious activities was assessed with two items (e.g., "How often do you go to religious services?"), each rated on a scale from 0 (*never*) to 5 (*more than once a week*). Frequency of engagement in private religious practices was determined with three items (e.g., "How often do you read the bible or other religious literature?") rated on a scale from 0 (*never*) to 7 (*several times a day*). Participants' strength of identification with being religious/spiritual was assessed with the two items "To what extent do you consider yourself a religious (/spiritual) person?", which are rated from 0 (*not at all*) to 3 (*very*). An overall religiousness score was computed by calculating the mean score of the above responses (Cronbach's alpha = .86). To specify a religious preference, participants selected their religious affiliation from a list of 30 possibilities.

Target event nomination
Participants were asked to nominate a personal, distressing event that they felt has not yet been resolved. They were encouraged to give a short but exhaustive description of this event (prompt based on Beike & Wirth-Beaumont, 2005). The reported events were classified into different categories, such as bereavement or relationship loss. Additionally, participants indicated the date of occurrence of the event, which was used to calculate the time since the event happened (in months).

PTS symptoms
The PTSD Checklist – Civilian (PCL-C; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996) was administered to measure participants' level of PTS symptoms. The measure consists of 17 items matching the diagnostic criteria for PTS disorder (e.g., "Feeling very upset when something reminded you of a stressful experience from the past"). Participants were asked to indicate the extent to which the symptom bothered them during the past two weeks on a 5-point Likert scale ranging from 1 (*not at all)* to 5 (*extremely)*. Research on the PCL-C has confirmed its adequate psychometric properties (Adkins, Weathers, McDevitt-Murphy, & Daniels, 2008). In the present study, the checklist was anchored to the nominated target event and showed high internal consistency (Cronbach's alpha = .90). A mean score per participant was calculated.

R/S struggles
The extent of r/s struggle with regard to the target event was measured with three subscales of the religious coping scale (RCOPE; Pargament et al., 2000) that assess divine struggle: spiritual

discontent (e.g., "Wondered whether God had abandoned me"), punishing God reappraisal (e.g., "Decided that God was punishing me for my sins"), and reappraisal of God's powers (e.g., "Questioned the power of God"). These items have been related to lower well-being in previous research (e.g., Wortmann et al., 2011), and capture negatively valenced responses to a stressful event that reflect strain on the r/s meaning system. Each subscale consisted of three items rated on a scale from 0 (*not at all*) to 3 (*a lot*). We computed a mean score for every subscale as well as for the combined scales. Cronbach's alpha was .82 for spiritual discontent, .79 for punishing God reappraisal, .66 for reappraisal of God's powers, and .86 for the combined scales.

Meaning violations

The amount of meaning violation due to the target event was assessed using a modified version of the Global Meaning Violation Scale (GMVS; Park et al., 2016). The scale consisted of two subscales, namely belief violations (5 items; e.g., "How much does this stressful experience violate your sense that the world is a good and safe place?"), and goal violations (12 items asking about how much the stressful experience interferes with someone's ability to accomplish a variety of goals, e.g., "educational achievement", "self-acceptance"). Items are answered on a scale from 1 (*not at all*) to 4 (*very much*), and a mean score for each subscale as well as a score for overall meaning violation was calculated. The GMVS has demonstrated good reliability and validity in a college student sample (Park et al., 2016), and in the present study, Cronbach's alpha was .88 for overall meaning violation, .70 for belief violations, and .92 for goal violations.

Statistical approach

First, sample demographics were computed. To address the first research question, we computed bivariate Pearson's correlation coefficients between the different facets of r/s struggle and meaning violation with PTS symptoms. To determine if age, gender, race, religiousness, or time since the event should be included as covariates in the regression analyses, we examined their relationship with the level of PTS symptoms as well as the independent variables using correlation analyses and one-way analyses of variance. The second research question was analyzed using a multiple regression analysis predicting the level of PTS symptoms by r/s struggles and meaning violations. To examine the third research question regarding the moderating effect of MIL on the relationship between (a) meaning violations and PTS and (b) r/s struggles and PTS, we ran two separate moderation analyses using the bootstrapped moderation approach (Hayes, 2012). Meaning violations, MIL, and their interaction were entered as predictors of PTS symptoms. The same analysis was repeated using r/s struggles instead of meaning violation. All predictors were centered beforehand to avoid multicollinearity. Analyses were conducted using the Statistical Package for the Social Sciences (SPSS) program, version 25 (IBM Corp, 2017), and were regarded as significant when $p < .05$.

Results

Preliminary analyses

Participants' religiousness was significantly related to their amount of r/s struggle but was unrelated to PTS symptoms. Age and time since the event were not significantly related to any of the key study variables (see Table 1), and one-way analyses of variance indicated that there were no significant mean differences in the key variables depending on gender. Therefore, we did not include any of those variables as covariates in the regression analyses. There was a marginally significant effect of race with regard to the amount of goals violations ($p = .052$). However, as the inclusion of race as a covariate did not influence the significance of the findings, we report the results without covariates. Moreover, an inspection of the correlations indicated that the correlation between overall meaning violation and PTS symptoms was driven by the strong, positive correlation between goal violations

Table 1. Means, standard deviations, and correlations among study variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. PTS symptoms	1.90	.68	-	-.17*	.25**	.23**	.15*	.25**	.12†	.52***	.43***	-.05	.08	.08
2. Presence of MIL	4.81	1.22		-	-.08	-.09	-.10	-.11	.20**	-.04	.09	.05	.25***	.02
3. Spiritual discontent	.40	.68			-	.68***	.55***	.89***	.19**	.20**	.25***	.14†	.21**	-.12
4. Punishing God reappraisal	.37	.61				-	.42***	.82***	.05	.19*	.15*	-.04	.34***	-.09
5. Reappraisal of God's powers	.67	.71					-	.80***	.14†	.14†	.18*	.06	.08	.04
6. Overall r/s struggles	.48	.56						-	.15*	.21**	.24**	.07	.24*	-.06
7. Belief violation	2.28	.67							-	.18*	.74***	.16*	.14†	-.06
8. Goal violation	1.85	.74								-	.80***	.03	-.04	.13†
9. Overall meaning violation	2.06	.54									-	.11	.06	.06
10. Time since event	29.93	40.85										-	-.02	.04
11. Overall religiousness	1.23	1.04											-	-.12
12. Age	18.95	1.18												-

$N = 170$–189 (pairwise deletion), M and SD refer to the mean and standard deviation, respectively.
***$p < .001$, **$p < .01$, *$p < .05$, †$p < .10$

and PTS, whereas the correlation between belief violations and PTS was only marginally significant. Consequently, we decided to conduct the analyses using goal violations as a predictor instead of the overall meaning violation.

Sample characteristics and descriptive statistics

Age of the participants ranged from 18 to 25, with a mean age of 18.95 (SD = 1.18). The majority of the sample was female (78.3%) and identified as White or Caucasian (63.8%). Other races endorsed were Asian (14.9%), Multiracial (8.5%), Other (7.4%), and Black or African American (4.8%). Twenty-three participants (12.2%) identified as Hispanic/Latino. One participant preferred not to indicate race/ ethnicity. With regard to current religious preference, most participants identified as Catholic (32.3%), Agnostic (12.7%), None (10.6%), Roman Catholic (7.4%), or Atheist (5.8%). The stressful event reported by most students was bereavement (30.0%), followed by relationship loss (19.4%), relationship stress (17.8%), sickness of friends or family (11.1%), educational or athletic problems (8.3%), sexual assault or attempted sexual assault (5.0%), mental illness (4.4%), and witnessed or experienced violence or accidents (3.9%). Other descriptive statistics are presented in Table 1.

Research Question 1: What are the Interrelations Among Different Facets of R/S Struggle and Meaning Violation in the Face of Highly Stressful Experiences?

Pearson's correlation coefficients among the key study variables are presented in Table 1. As expected, all facets of r/s struggle were positively correlated with the level of PTS symptoms. Also, meaning violations were positively correlated with PTS. Interestingly, as stated above, while goal violations were strongly associated with PTS symptoms, the relationship between belief violations and PTS was small and only marginally significant. In addition, goal and belief violations were differentially related to measures of r/s struggle, with small effect sizes. Both goal and belief violations were positively related to spiritual discontent and marginally related to reappraisal of God's power. Punishing God reappraisal, however, was significantly and positively associated with goal violations, but not with belief violations.

Research Question 2: Are Goal Violations and R/S Struggles Independently Related to Level of PTS Symptoms?

Multiple regression analysis showed that goal violations and r/s struggles together explained 28.2% of the variance in PTS symptoms ($F(2, 183)$ = 35.98, $p < .001$). Both goal violations (β = .48, $p < .001$) and r/s struggles (β = .15, p = .017) were independently related to PTS symptoms. Thus, even when controlling for the amount of struggle, more goal violations due to the stressful event were still related to more PTS symptoms, as was the amount of struggles when controlling for goal violations.

Research Question 3a:Does Presence of MIL Moderate the Relationship Between Goal Violations and PTS Symptoms?

The model including goal violations and meaning in life as well as their interaction as predictors explained 33.8% of the variance in PTS symptoms ($F(3,184)$ = 31.36, $p < .001$). The interaction term between goal violations and MIL was significant ($F(1,184)$ = 14.30, ΔR^2 = .05, b = −.17, $t(184)$ = −3.78, $p < .001$), indicating that MIL moderated the relationship between goal violations and PTS symptoms. Simple slope analyses showed that the association between goal violations and PTS was significant at low (- 1 SD; b = .72, $t(184)$ = 8.36, $p < .001$), medium (mean; b = .51, $t(184)$ = 9.04, $p < .001$), and high (+ 1 SD; b = .30, $t(184)$ = 4.22, $p < .001$) levels of MIL, but became weaker in magnitude with increasing levels of MIL (see Figure 1(a)). Thus, in line with our hypothesis, experiencing one's life as meaningful attenuated the relationship between goal violations and PTS symptoms.
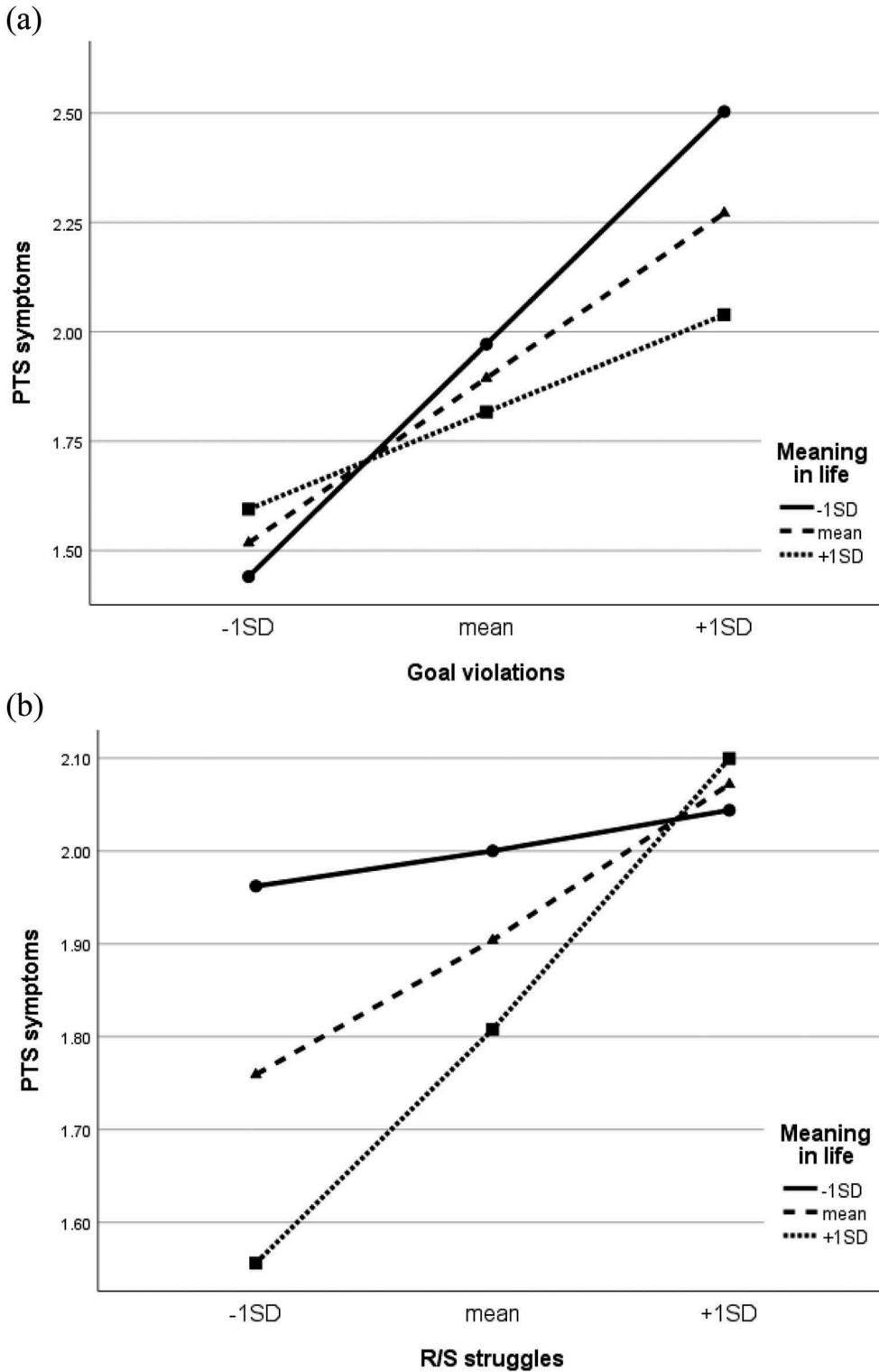
Figure I. Association between (a) goal violations and PTS symptoms, and (b) r/s struggles and PTS symptoms, at different levels of experienced meaning in life.

Research Question 3b: Does Presence of MIL Moderate the Relationship Between R/S Struggles and PTS Symptoms?

The model including r/s struggles and MIL as well as their interaction as predictors explained 11.4% of the variance in PTS symptoms ($F(3,182) = 7.81$, $p < .001$). The interaction term between r/s struggles and MIL was significant ($F(1,182) = 6.03$, $\Delta R^2 = .03$, $b = .18$, $t(182) = 2.46$, $p = .015$), indicating that MIL moderated the relationship between struggles and PTS symptoms. Simple slope analyses showed that the association between struggles and PTS was non-significant at low levels of MIL (- 1 SD; $b = .08$, $t(182) = .65$, $p = .515$), but significant at medium (mean; $b = .30$, $t(182) = 3.52$, $p < .001$), and high (+ 1 SD; $b = .52$, $t(182) = 4.08$, $p < .001$) levels of MIL. Thus, contrary to our hypothesis, higher levels of MIL buffered the relationship between r/s struggles and PTS symptoms, but only at low and medium levels of struggle (see Figure 1(b)).

Discussion

The current study examined interrelations among meaning violations, r/s struggles, and PTS symptoms, and how they might differ based on an individual's sense of MIL. In general, our results suggest that while struggles and meaning violations show independent relationships with symptoms, they are at least partially buffered by the same construct – the experience of one's life as meaningful.

Interrelations among R/S struggles and meaning violations

The result that all facets of struggle are related to symptomatology is consistent with our hypothesis as well as previous findings relating (divine) struggles to worse mental health (Currier et al., 2018; Ellison & Lee, 2010; Wilt et al., 2017) and PTS symptoms in particular (Currier et al., 2015; Park et al., 2017; Wortmann et al., 2011), and thus justifies investigating them as one construct in relation to symptomatology. In line with previous research, goal violations were more closely related to PTS symptoms than were belief violations (Park & Gutierrez, 2013; Steger et al., 2015). However, while other studies only found a stronger effect for goal violations than belief violations, in the current study the link between belief violations and symptoms was absent. This absence might be due to differences in the sample (e.g., college students versus veterans), the type of event reported on (e.g., academic stressors versus military trauma), or the specific outcome measure applied (e.g., well-being versus PTS). As an example, in a study of college students who experienced a DSM-IV traumatic event, nearly half of participants reported bereavement as their most distressing event, and 12% mentioned a motor vehicle accident (Park et al., 2012). In the current sample, in contrast, 30% of students reported on bereavement and about 35% reported on relationship loss or stress, followed by the sickness of family and friends (11.1%) and educational or athletic problems (8.3%). Thus, the majority of participants in the current study might have experienced events that are naturally more closely linked to goals than to beliefs. This explanation is supported by findings demonstrating that bereavement is more strongly related to belief violations, while relationship stress is more strongly related to goal violations (Park et al., 2016). Consequently, our results further highlight the importance of examining the sequelae of goal and belief violations separately.

The small-sized associations between meaning violations and the different facets of struggle are in line with the notion of struggles being a violation of one sub-part of the meaning system. Furthermore, the relationship between goal and belief violations and struggles differed in significance depending on the facet of struggle measured; goal and belief violations showed significant relations to spiritual discontent and marginal relations to reappraisal of God's powers. Punishing God reappraisal, however, was only significantly related to goal violations. The finding that different facets of divine struggle relate differently to meaning violations could indicate that they reflect different degrees of religious meaning violation, with spiritual discontent most closely resembling meaning violation.

At the same time, participants' God image might have influenced their experience of religious meaning violation. For instance, in samples of U.S. college students and community-dwelling adults, views of God as cruel and distant were differentially related to different facets of divine struggle (Exline, Grubbs, & Homolka, 2015). Likewise, while spiritual discontent (e.g., feeling abandoned by God) might represent a meaning violation for most people, the degree to which punishing God reappraisal (e.g., wondering what one did for God to be punishing) reflects a violation might depend on an individual's God image. Someone viewing God as benevolent might experience appraisals of a stressful life event as God's punishment as a meaning violation, whereas for someone seeing God as angry, this r/s struggle might just reinforce a pre-existing negative God image, and consequently not create a discrepancy between global and situational religious meaning.

Furthermore, it is possible that the r/s struggle items captured not only meaning violations but also negative meanings made, thereby biasing the interpretation of struggles as a meaning violation. For example, the item "realized that God cannot answer all of my prayers" could reflect a new, negative meaning made due to the stressful event. We anchored the questions to the target event to gauge appraised violations as much as possible, but cannot exclude the possibility that participants answered the items from their current point of view.

Independent relationships of goal violations and R/S struggles with PTS symptoms

Contrary to our hypothesis, both struggles and goal violations remained significant predictors of PTS symptomatology when investigated simultaneously. Thus, struggles explained variance in PTS symptoms over and above global meaning violations. This finding is not in line with the conceptualization of struggles as a violation of one component of a global meaning system, as the association between r/s struggles and PTS symptoms should not remain significant when investigating the effect of global meaning violations at the same time. Further, this finding suggests that not all aspects of r/s struggle are captured by meaning violations. Put differently, struggles may represent more than a violation of a religious meaning system. This interpretation is also consistent with our finding that not all facets of struggle were significantly related to meaning violations. Alternatively, methodological explanations might play a role again: the measure of meaning violations might not capture (the full range of) religious meaning violations, or the measure of r/s struggle might not purely be assessing violations of religious meaning.

Moderating effect of experienced MIL

The finding that MIL moderates the association between goal violations and PTS symptoms is in line with previous studies demonstrating a buffering effect of MIL on negative mental health outcomes (e.g., Haynes et al., 2017; Marco et al., 2017). We extended those findings by showing that MIL might exert those effects by buffering the violations that are often associated with the experience of stressful life events. But how exactly can a sense of MIL buffer the effect of goal violations? It has been postulated that a good understanding of one's life might help people to handle feelings of uncertainty as well as their reactions to ambiguous events (George & Park, 2016; Hirsh, Mar, & Peterson, 2012). Experiencing one's life as meaningful might, therefore, represent a resource for individuals confronted with meaning violations. This view is also consistent with recent findings linking MIL to an increased use of proactive coping (Miao & Gan, 2018). When considering the role of MIL in buffering goal violations specifically, Carver and Scheier's (1998) model of goals as hierarchically organized might offer an explanation. According to this model, people with well-defined higher-order goals have more resources to adjust their lower-order goals when they become unattainable. Thus, it might be the case that the goal violations measured in the current study were reflective of goals considered lower-order by participants, while the sense of MIL indicated that pursuit of higher-order goals remained intact. Alternatively, MIL may be reflective of the presence of underlying values, which have been defined as ways of being that serve as a compass to direct behavior yet are not attained like goals (Hayes, Luoma, Bond, Masuda, &

Lillis, 2006). Values can persist and re-emerge in a different form even as ways of living out those values are thwarted by a life event.

The results regarding the moderating effect of MIL in the relationship between r/s struggles and PTS symptoms are partially in line with previous findings. Krause et al. (2018) found that the effects of sacred loss on physical health became weaker with increasing levels of MIL. Contrarily, in our study, MIL only buffered the effects of low and medium levels of r/s struggle on PTS symptoms, but not of high levels of struggle. This result suggests, again, that struggles might represent more than a strain on people's meaning system and is consistent with our earlier findings. As a consequence, general MIL might only be capable of buffering a certain amount of struggle. In order to buffer high levels of religious meaning violation, a strong *religious* meaning system, in particular, may be necessary.

For example, different indicators of a strong religious meaning system (i.e., a set of guiding religious beliefs, practices, and coping resources) have been shown to attenuate the link between r/s struggles and depressive symptoms in a large sample of religious U.S. adults (Abu-Raiya, Pargament, & Krause, 2016). Even stronger support for this prediction was found in additional analyses of the same sample that investigated the differential effect of religious MIL versus a general sense of MIL on the relationship between financial strain and drug use and demonstrated that only the former exerted a buffering effect (Krause, Pargament, Ironson, & Hill, 2017).

Implications

In sum, the findings of the current study have both theoretical and clinical implications. Theoretically, the results confirm previous research that has distinguished between goal and belief violations and support earlier findings that emphasized the relative importance of goal violations over belief violations (e.g., Steger et al., 2015). Moreover, our findings indicate that not all aspects of r/s struggles are captured by meaning violations and that r/s struggles may independently contribute to PTS symptoms. These results call for further insight into the nature of r/s struggles and their unique relationship with PTS symptoms beyond meaning violations.

Clinically, the findings show that attending to (r/s) meaning violations is important for clinicians working with people who have been exposed to stressful life experiences. Contrary to the traditional view seeing belief violations as crucial for the development of PTS symptoms (e.g., Janoff-Bulman, 1992), goal violations and r/s violations, in particular, might be more important targets for intervention (Park et al., 2017). Our findings confirm previous accounts that have pointed at the importance of focusing on factors that sustain feelings of MIL in people who are coping with stressful life events (e.g., Halama & Bakosova, 2009; Haynes et al., 2017; Krause, 2007), and furthermore indicate that the buffering effects of MIL may work differently for goal violations and r/s struggles. MIL may in particular buffer negative consequences that are associated with strong goal violations, whereas for r/s struggles MIL only seems to attenuate PTS symptoms associated with low to moderate levels of r/s struggle. If high levels of r/s struggle are present, interventions likely will be more successful in alleviating symptoms when specifically addressing religious sources of meaning (Abu-Raiya et al., 2016).

Limitations

The main limitation of the current study concerns the cross-sectional nature of the design, which prohibits conclusions about directionality in the examined relationships. For example, it is likely that goal violations and r/s struggles interact over time, which remains unexplored given the cross-sectional data. Moreover, the distress caused by meaning violations is thought to initiate meaning-making processes aimed at restoring the consistency between the global meaning system and the appraised meaning of the stressful event (Park, 2010). At the point of data collection, participants

could, therefore, have engaged in different amounts of meaning-making and/or achieved different levels of meaning made, biasing their responses.

A second limitation regards the exclusive use of self-report instruments. All assessed constructs are highly subjective (e.g., Hicks & King, 2009; Huta, 2017), so that self-report seems an appropriate option to tap into these experiences. Still, these instruments carry the risk of responses being influenced by memory biases or social desirability. The latter should be kept in mind for the report of r/s struggle in particular, as studies show that struggles can be perceived as morally unacceptable (Exline, Kaplan, & Grubbs, 2012), and might create additional strain in an individual's community (Exline & Grubbs, 2011). Additionally, when assessing MIL with a self-report instrument, it can be questioned whether individuals are referring to the same construct when confronted with broad questions like "I understand my life's meaning" (e.g., Park, 2017).

Lastly, utilizing a college student sample has implications for the generalizability of the results, as it is associated with an over-representation of females and the focus on a specific developmental phase. The over-representation of females might reduce the applicability of the current findings to males. Studies highlight gender differences in the extent of religiousness/spirituality and the factors influencing its development during college years, with females reporting higher religiousness/spirituality and a stronger influence of peer relationships (Bryant, 2007). As a result, the finding of r/s struggle being an important predictor of PTS symptoms might partly be attributable to the composition of the sample. Moreover, the developmental phase of emerging adulthood has been linked to natural fluctuations in worldviews and religiousness (Gutierrez & Park, 2015; Schwartz, Zamboanga, Luyckx, Meca, & Ritchie, 2013). In other age groups, the findings might thus differ from the current ones. It should be noted that simultaneously this relevance of meaning systems and the high prevalence of stressful life events in college students make investigating this population especially important.

Future research

Nevertheless, future studies should examine the interrelations between and the independent relationship of r/s struggles and global meaning violations in different populations, varying not only in age but also in severity and type of experienced stressor, among others. As our results consistently support the notion of r/s struggles representing more than meaning violation and having detrimental and difficult-to-buffer effects on mental health, a better understanding of the nature of r/s struggles should be a focus of future studies. Longitudinal designs will be necessary to elucidate the relationships among r/s struggles, meaning violations, and symptomatology over time. For example, Exline and Rose (2013) suggest the possibility of a bi-directional relationship between struggles and symptoms. Likewise, both struggles and meaning violations have been shown to be especially harmful if chronic (Bonanno, Wortman, & Nesse, 2004; Exline et al., 2011; Kernan & Lepore, 2009; Pargament, Koenig, Tarakeshwar, & Hahn, 2004). Investigating which individual differences determine whether an individual gets stuck in struggles or general meaning violations, is able to resolve them, or experiences interrelations that perpetuate symptoms, will offer insights into central factors in the meaning-making process.

Finally, it will be imperative to identify factors that buffer the negative effects of high levels of struggle. We already suggested that a strong religious meaning system might be a promising target for further investigation. Results of a study of U.S. adults support the idea that different parts of a meaning system have different moderating effects (Trevino, Pargament, Krause, Ironson, & Hill, 2017). At the same time, however, the number and diversity of sources of meaning might be relevant to consider, as both factors have been linked to the extent of experienced meaningfulness (Damásio & Koller, 2015; Schnell, 2011).

Conclusion

Meaning violations and r/s struggles both arise in response to stressful life events and are associated with PTS symptoms, suggesting that they may both be understood as strain on an individual's meaning system. The current study advances our understanding of their interrelations by showing that both global meaning violations and r/s struggles have independent relationships with PTS symptoms in college students who have experienced a stressful life event, while their negative correlates can – at least partially – be buffered by an individual's general sense of MIL. Future research should use longitudinal designs to further explore those relationships and to identify factors that buffer the link between high levels of struggle and symptomatology.

Disclosure statement

ORCID

Judith E. Appel   http://orcid.org/0000-0002-4260-8431
Crystal L. Park   http://orcid.org/0000-0001-6572-7321
Jennifer H. Wortmann   http://orcid.org/0000-0001-8346-7375
Hein T. van Schie   http://orcid.org/0000-0002-1149-5198

References

Abeles, R., Ellison, C. G., George, L. K., Idler, E. L., Krause, N., Levin, J. S., & Williams, D. (1999). *Multidimensional measurement of Religiousness/Spirituality for use in health research*. Kalamazoo, MI: John E. Fetzer Institute.

Abu-Raiya, H., Pargament, K. I., & Exline, J. J. (2015). Understanding and addressing religious and spiritual struggles in health care. *Health & Social Work*, 40(4), e126–e134.

Abu-Raiya, H., Pargament, K. I., & Krause, N. (2016). Religion as problem, religion as solution: Religious buffers of the links between religious/spiritual struggles and well-being/mental health. *Quality of Life Research*, 25(5), 1265–1274. doi:10.1007/s11136-015-1163-8

Abu-Raiya, H., Pargament, K. I., Krause, N., & Ironson, G. (2015). Robust links between religious/spiritual struggles, psychological distress, and well-being in a national sample of American adults. *American Journal of Orthopsychiatry*, 85(6), 565–575. doi:10.1037/ort0000084

Adkins, J. W., Weathers, F. W., McDevitt-Murphy, M., & Daniels, J. B. (2008). Psychometric properties of seven self-report measures of posttraumatic stress disorder in college students with mixed civilian trauma exposure. *Journal of Anxiety Disorders*, 22, 1393–1402. doi:10.1016/j.janxdis.2007.01.006

Aflakseir, A., & Coleman, P. G. (2009). The influence of religious coping on the mental health of disabled Iranian war veterans. *Mental Health, Religion & Culture*, 12(2), 175–190. doi:10.1080/13674670802428563

Ano, G. G., & Pargament, K. I. (2013). Predictors of spiritual struggles: An exploratory study. *Mental Health, Religion & Culture*, 16(4), 419–434. doi:10.1080/13674676.2012.680434

Beck, J. G., Jacobs-Lentz, J., McNiff, J., Olsen, S. A., & Clapp, J. D. (2014). Understanding posttrauma cognitions and beliefs. In L. A. Zoellner & N. C. Feeny (Eds.), *Facilitating resilience and recovery following trauma* (pp. 167–190). New York, NY: Guilford Publications.

Beike, D. R., & Wirth-Beaumont, E. T. (2005). Psychological closure as a memory phenomenon. *Memory*, 13(6), 574–593. doi:10.1080/09658210444000241

Ben-Ezra, M., Hamama-Raz, Y., Mahat-Shamir, M., Pitcho-Prelorentzos, S., & Kaniasty, K. (2017). Shattering core beliefs: Psychological reactions to mass shooting in Orlando. *Journal of Psychiatric Research*, 85, 56–58. doi:10.1016/j.jpsychires.2016.09.033

Blackburn, L., & Owens, G. P. (2015). The effect of self-efficacy and meaning in life on posttraumatic stress disorder and depression severity among veterans. *Journal of Clinical Psychology*, 71(3), 219–228. doi:10.1002/jclp.22133

Blanchard, E. B., Jones-Alexander, J., Buckley, T. C., & Forneris, C. A. (1996). Psychometric properties of the PTSD checklist (PCL). *Behaviour Research and Therapy*, 34, 669–673.

Boals, A., Banks, J. B., Hathaway, L. M., & Schuettler, D. (2011). Coping with stressful events: Use of cognitive words in stressful narratives and the meaning-making process. *Journal of Social and Clinical Psychology*, 30, 378–403. doi:10.1521/jscp.2011.30.4.378

Bonanno, G. A., Wortman, C. B., & Nesse, R. M. (2004). Prospective patterns of resilience and maladjustment during widowhood. *Psychology and Aging*, *19*(2), 260–271. doi:10.1037/0882-7974.19.2.260

Brassai, L., Piko, B. F., & Steger, M. F. (2011). Meaning in life: Is it a protective factor for adolescents' psychological health? *International Journal of Behavioral Medicine*, *18*(1), 44–51. doi:10.1007/s12529-010-9089-6

Bryant, A. N. (2007). Gender differences in spiritual development during the college years. *Sex Roles*, *56*(11–12), 835–846. doi:10.1007/s11199-007-9240-2

Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York, NY: Cambridge University.

Cohen, K., & Cairns, D. (2012). Is searching for meaning in life associated with reduced subjective well-being? Confirmation and possible moderators. *Journal of Happiness Studies*, *13*(2), 313–331. doi:10.1007/s10902-011-9265-7

Cox, B. E., Reason, R. D., Nix, S., & Gillman, M. (2016). Life happens (outside of college): Non-college life-events and students' likelihood of graduation. *Research in Higher Education*, *57*(7), 823–844. doi:10.1007/s11162-016-9409-z

Cox, K. S., Resnick, H. S., & Kilpatrick, D. G. (2014). Prevalence and correlates of posttrauma distorted beliefs: Evaluating DSM-5 PTSD expanded cognitive symptoms in a national sample. *Journal of Traumatic Stress*, *27*(3), 299–306. doi:10.1002/jts.21925

Currier, J. M., Holland, J. M., & Drescher, K. D. (2015). Spirituality factors in the prediction of outcomes of PTSD treatment for US military veterans. *Journal of Traumatic Stress*, *28*(1), 57–64. doi:10.1002/jts.21978

Currier, J. M., McDermott, R. C., McCormick, W. H., Churchwell, M. C., & Milkeris, L. (2018). Exploring cross-lagged associations between spiritual struggles and risk for suicidal behavior in a community sample of military veterans. *Journal of Affective Disorders*, *230*, 93–100. doi:10.1016/j.jad.2018.01.009

Dalgleish, T. (2004). Cognitive approaches to posttraumatic stress disorder: The evolution of multirepresentational theorizing. *Psychological Bulletin*, *130*(2), 228–260. doi:10.1037/0033-2909.130.2.228

Damásio, B. F., & Koller, S. H. (2015). Complex experiences of meaning in life: Individual differences among sociodemographic variables, sources of meaning and psychological functioning. *Social Indicators Research*, *123* (1), 161–181. doi:10.1007/s11205-014-0726-3

Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, *38*(4), 319–345.

Ellison, C. G., & Lee, J. (2010). Spiritual struggles and psychological distress: Is there a dark side of religion? *Social Indicators Research*, *98*(3), 501–517. doi:10.1007/s11205-009-9553-3

Emmons, R. A. (2003). Personal goals, life meaning, and virtue: Wellsprings of a positive life. In C. L. M. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 105–128). Washington, DC: American Psychological Association.

Exline, J. J. (2013). Religious and spiritual struggles. In K. I. Pargament (Ed.-in-Chief), J. J. Exline, & J. Jones (Assoc. Eds.) (Eds.), *APA handbook of psychology, religion, and spirituality: Vol 1. Context, theory, and research* (pp. 459–476). Washington, DC: American Psychological Association.

Exline, J. J., & Rose, E. (2013). Religious and spiritual struggles. In R. F. Paloutzian & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (2nd ed., pp. 380–398). New York, NY: Guilford Publications.

Exline, J. J., & Grubbs, J. B. (2011). "If I tell others about my anger toward God, how will they respond?" Predictors, associated behaviors, and outcomes in an adult sample. *Journal of Psychology and Theology*, *39*(4), 304–315. doi:10.1177/009164711103900402

Exline, J. J., Grubbs, J. B., & Homolka, S. J. (2015). Seeing God as cruel or distant: Links with divine struggles involving anger, doubt, and fear of God's disapproval. *The International Journal for the Psychology of Religion*, *25*(1), 29–41. doi:10.1080/10508619.2013.857255

Exline, J. J., Kaplan, K. J., & Grubbs, J. B. (2012). Anger, exit, and assertion: Do people see protest toward God as morally acceptable? *Psychology of Religion and Spirituality*, *4*(4), 264–277. doi:10.1037/a0027667

Exline, J. J., Park, C. L., Smyth, J. M., & Carey, M. P. (2011). Anger toward God: Social- cognitive predictors, prevalence, and links with adjustment to bereavement and cancer. *Journal of Personality and Social Psychology*, *100* (1), 129–148. doi:10.1037/a0021716

Foa, E. B., & Riggs, D. S. (1993). Post-traumatic stress disorder in rape victims. In J. Oldham, M. B. Riba, & A. Tasman (Eds.), *Review of psychiatry* (Vol. 12, pp. 273–303). Washington, DC: American Psychiatric Association.

Foa, E. B., Hembree, E. A., & Rothbaum, B. O. (2007). *Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences: Therapist guide*. New York, NY: Oxford University Press.

George, L. S., & Park, C. L. (2016). Meaning in life as comprehension, purpose, and mattering: Toward integration and new research questions. *Review of General Psychology*, *20*(3), 205–220. doi:10.1037/gpr0000077

George, L. S., Park, C. L., & Chaudoir, S. R. (2016). Examining the relationship between trauma centrality and posttraumatic stress disorder symptoms: A moderated mediation approach. *Traumatology*, *22*(2), 85–93. doi:10.1037/trm0000063

Gutierrez, I. A., & Park, C. L. (2015). Emerging adulthood, evolving worldviews: How life events impact college students' developing belief systems. *Emerging Adulthood*, *3*(2), 85–97. doi:10.1177/2167696814544501

Halama, P., & Bakosova, K. (2009). Meaning in life as a moderator of the relationship between perceived stress and coping. *Studia Psychologica*, *51*(2/3), 143.

Harris, J. I., Erbes, C. R., Engdahl, B. E., Olson, R. H., Winskowski, A. M., & McMahill, J. (2008). Christian religious functioning and trauma outcomes. *Journal of Clinical Psychology*, 64(1), 17–29. doi:10.1002/jclp.20427

Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling* [Software]. Retrieved from http://www.afhayes.com/

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1–25. doi:10.1016/j.brat.2005.06.006

Haynes, W. C., Van Tongeren, D. R., Aten, J., Davis, E. B., Davis, D. E., Hook, J. N., … Johnson, T. (2017). The meaning as a buffer hypothesis: Spiritual meaning attenuates the effect of disaster-related resource loss on posttraumatic stress. *Psychology of Religion and Spirituality*, 9(4), 446–453. doi:10.1037/rel0000098

Hicks, J. A., & King, L. A. (2009). Meaning in life as a subjective judgment and a lived experience. *Social and Personality Psychology Compass*, 3(4), 638–653. doi:10.1111/j.1751-9004.2009.00193.x

Hirsh, J. B., Mar, R. A., & Peterson, J. B. (2012). Psychological entropy: A framework for understanding uncertainty-related anxiety. *Psychological Review*, 119(2), 304–320. doi:10.1037/a0026767

Horowitz, M. J. (1986). Stress-response syndromes: A review of posttraumatic and adjustment disorders. *Hospital & Community Psychiatry*, 37, 241–249.

Huta, V. (2017). Meaning as a subjective experience. *Journal of Constructivist Psychology*, 30(1), 20–25. doi:10.1080/10720537.2015.1119088

IBM Corp. (2017). *IBM SPSS statistics for windows*. Version 25.0. Armonk, NY: Author.

Idler, E. L., Musick, M. A., Ellison, C. G., George, L. K., Krause, N., Ory, M. G., … Williams, D. R. (2003). Measuring multiple dimensions of religion and spirituality for health research: Conceptual background and findings from the 1998 general social survey. *Research on Aging*, 25, 327–365. doi:10.1177/0164027503025004001

Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. New York, NY: Free Press.

Kernan, W. D., & Lepore, S. J. (2009). Searching for and making meaning after breast cancer: Prevalence, patterns, and negative affect. *Social Science & Medicine*, 68(6), 1176–1182. doi:10.1016/j.socscimed.2008.12.038

Koltko-Rivera, M. E. (2004). The psychology of worldviews. *Review of General Psychology*, 8(1), 3–58. doi:10.1037/1089-2680.8.1.3

Krause, N. (2007). Evaluating the stress-buffering function of meaning in life among older people. *Journal of Aging and Health*, 19(5), 792–812. doi:10.1177/0898264307304390

Krause, N., Pargament, K. I., & Ironson, G. (2018). Meaning in life moderates the relationship between sacred loss/desecration and health. *Journal for the Scientific Study of Religion*, 57(2), 365–376. doi:10.1111/jssr.12522

Krause, N., Pargament, K. I., Ironson, G., & Hill, P. (2017). Religious involvement, financial strain, and poly-drug use: Exploring the moderating role of meaning in life. *Substance Use & Misuse*, 52(3), 286–293. doi:10.1080/10826084.2016.1225096

Lazarus, R. S., & Folkman, S. (1984). Coping and adaptation. In W. D. Gentry (Ed.), *The handbook of behavioral medicine* (pp. 282–325). New York, NY: Guilford Publications.

Long, M. E., Elhai, J. D., Schweinle, A., Gray, M. J., Grubaugh, A. L., & Frueh, B. C. (2008). Differences in posttraumatic stress disorder diagnostic rates and symptom severity between Criterion A1 and non-Criterion A1 stressors. *Journal of Anxiety Disorders*, 22, 1255–1263. doi:10.1016/j.janxdis.2007.01.006

Marco, J. H., Guillén, V., & Botella, C. (2017). The buffer role of meaning in life in hopelessness in women with borderline personality disorders. *Psychiatry Research*, 247, 120–124. doi:10.1016/j.psychres.2016.11.011

Mascaro, N., & Rosen, D. H. (2006). The role of existential meaning as a buffer against stress. *Journal of Humanistic Psychology*, 46(2), 168–190. doi:10.1177/0022167805283779

Miao, M., & Gan, Y. (2018). How does meaning in life predict proactive coping? The self- regulatory mechanism on emotion and cognition. *Journal of Personality*, 1–14. doi:10.1111/jopy.12416.

Pagotto, L. F., Mendlowicz, M. V., Coutinho, E. S. F., Figueira, I., Luz, M. P., Araujo, A. X., & Berger, W. (2015). The impact of posttraumatic symptoms and comorbid mental disorders on the health-related quality of life in treatment-seeking PTSD patients. *Comprehensive Psychiatry*, 58, 68–73. doi:10.1016/j.comppsych.2015.01.002

Pargament, K. I., Desai, K. M., & McConnell, K. M. (2006). Spirituality: A pathway to posttraumatic growth or decline? In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research & practice* (pp. 121–137). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Pargament, K. I. (2007). *Spiritually integrated psychotherapy: Understanding and addressing the sacred*. New York, NY: Guilford Publications.

Pargament, K. I., Koenig, H. G., & Perez, L. M. (2000). The many methods of religious coping: Development and initial validation of the RCOPE. *Journal of Clinical Psychology*, 56(4), 519–543.

Pargament, K. I., Koenig, H. G., Tarakeshwar, N., & Hahn, J. (2004). Religious coping methods as predictors of psychological, physical and spiritual outcomes among medically ill elderly patients: A two-year longitudinal study. *Journal of Health Psychology*, 9(6), 713–730. doi:10.1177/1359105304045366

Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, L. (1998). Patterns of positive and negative religious coping with major life stressors. *Journal for the Scientific Study of Religion*, 37, 710–724. doi:10.2307/1388152

Park, C. L. (2005). Religion as a meaning-making framework in coping with life stress. *Journal of Social Issues*, 61(4), 707–729. doi:10.1111/josi.2005.61.issue-4

Park, C. L. (2008). Testing the meaning making model of coping with loss. *Journal of Social and Clinical Psychology*, *27*(9), 970–994. doi:10.1521/jscp.2008.27.9.970

Park, C. L. (2010). Making sense of the meaning literature: An integrative review of meaning making and its effects on adjustment to stressful life events. *Psychological Bulletin*, *136*(2), 257–301. doi:10.1037/a0018301

Park, C. L. (2013). Religion and meaning. In R. F. Paloutzian & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (2nd ed., pp. 357–379). New York, NY: Guilford Publications.

Park, C. L. (2017). Distinctions to promote an integrated perspective on meaning: Global meaning and meaning-making processes. *Journal of Constructivist Psychology*, *30*(1), 14–19. doi:10.1080/10720537.2015.1119082

Park, C. L., Currier, J. M., Harris, J. I., & Slattery, J. M. (2017). *Trauma, meaning, and spirituality: Translating research into clinical practice*. Washington, DC: American Psychological Association.

Park, C. L., & Gutierrez, I. A. (2013). Global and situational meanings in the context of trauma: Relations with psychological well-being. *Counselling Psychology Quarterly*, *26*, 8–25. doi:10.1080/09515070.2012.727547

Park, C. L., Holt, C. L., Le, D., Christie, J., & Williams, B. R. (2018). Positive and negative religious coping styles as prospective predictors of well-being in African Americans. *Psychology of Religion and Spirituality*, *10*, 318–326. doi:10.1037/rel0000124

Park, C. L., Mills, M. A., & Edmondson, D. (2012). PTSD as meaning violation: Testing a cognitive worldview perspective. *Psychological Trauma: Theory, Research, Practice, and Policy*, *4*(1), 66–73. doi:10.1037/a0018792

Park, C. L., Riley, K. E., George, L. S., Gutierrez, I. A., Hale, A. E., Cho, D., & Braun, T. D. (2016). Assessing disruptions in meaning: Development of the global meaning violation scale. *Cognitive Therapy and Research*, *40*(6), 831–846. doi:10.1007/s10608-016-9794-9

Park, C. L., Smith, P. H., Lee, S. Y., Mazure, C. M., McKee, S. A., & Hoff, R. (2017). Positive and negative religious/spiritual coping and combat exposure as predictors of posttraumatic stress and perceived growth in Iraq and Afghanistan veterans. *Psychology of Religion and Spirituality*, *9*(1), 13–20. doi:10.1037/rel0000086

Rapaport, M. H., Clary, C., Fayyad, R., & Endicott, J. (2005). Quality-of-life impairment in depressive and anxiety disorders. *The American Journal of Psychiatry*, *162*(6), 1171–1178. doi:10.1176/appi.ajp.162.6.1171

Ruscio, A. M., Ruscio, J., & Keane, T. M. (2002). The latent structure of posttraumatic stress disorder: A taxometric investigation of reactions to extreme stress. *Journal of Abnormal Psychology*, *111*(2), 290–301. doi:10.1037/0021-843X.111.2.290

Schnell, T. (2011). Individual differences in meaning-making: Considering the variety of sources of meaning, their density and diversity. *Personality and Individual Differences*, *51*(5), 667–673. doi:10.1016/j.paid.2011.06.006

Schulenberg, S. E., Strack, K. M., & Buchanan, E. M. (2011). The Meaning in Life Questionnaire: Psychometric properties with individuals with serious mental illness in an inpatient setting. *Journal of Clinical Psychology*, *67*(12), 1210–1219. doi:10.1002/jclp.20841

Schuler, E. R., & Boals, A. (2016). Shatterpapering world assumptions: A prospective view of the impact of adverse events on world assumptions. *Psychological Trauma: Theory, Research, Practice, and Policy*, *8*(3), 259–266. doi:10.1037/tra0000073

Schwartz, S. J., Zamboanga, B. L., Luyckx, K., Meca, A., & Ritchie, R. A. (2013). Identity in emerging adulthood: Reviewing the field and looking forward. *Emerging Adulthood*, *1*(2), 96–113. doi:10.1177/2167696813479781

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, *53*(1), 80–93. doi:10.1037/0022-0167.53.1.80

Steger, M. F., & Kashdan, T. B. (2013). The unbearable lightness of meaning: Well-being and unstable meaning in life. *The Journal of Positive Psychology*, *8*(2), 103–115. doi:10.1080/17439760.2013.771208

Steger, M. F., Owens, G. P., & Park, C. L. (2015). Violations of war: Testing the meaning- making model among Vietnam veterans. *Journal of Clinical Psychology*, *71*(1), 105–116. doi:10.1002/jclp.22121

Szymanski, D. M., & Mikorski, R. (2016). External and internalized heterosexism, meaning in life, and psychological distress. *Psychology of Sexual Orientation and Gender Diversity*, *3*(3), 265–274. doi:10.1037/sgd0000182

Trevino, K. M., Pargament, K. I., Krause, N., Ironson, G., & Hill, P. (2017). Stressful events and religious/spiritual struggle: Moderating effects of the general orienting system. *Psychology of Religion and Spirituality*. Advance online publication. doi:10.1037/rel0000149

Wilt, J. A., Grubbs, J. B., Pargament, K. I., & Exline, J. J. (2017). Religious and spiritual struggles, past and present: Relations to the big five and well-being. *The International Journal for the Psychology of Religion*, *27*(1), 51–64. doi:10.1080/10508619.2016.1183251

Winger, J. G., Adams, R. N., & Mosher, C. E. (2016). Relations of meaning in life and sense of coherence to distress in cancer patients: A meta-analysis. *Psycho-Oncology*, *25*, 2–10. doi:10.1002/pon.3798

Wortmann, J. H., Park, C. L., & Edmondson, D. (2011). Trauma and PTSD symptoms: Does spiritual struggle mediate the link? *Psychological Trauma: Theory, Research, Practice, and Policy*, *3*(4), 442–452. doi:10.1037/a0021413