



Religious commitment and positive mood as information about meaning in life [☆]

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Available online 20 April 2007

Abstract

Two studies examined the role of religious commitment in moderating the relationship between positive affect (PA) and meaning in life. In Study 1, Sample 1, religiosity was found to moderate the relationship between naturally occurring PA and meaning in life, showing that high levels of religiosity attenuated the effects of PA on meaning in life. In Study 1, Sample 2, religiosity similarly moderated the effects of induced mood on meaning in life. In addition, this pattern of results was shown to be unique to meaning in life compared to another life domain (life satisfaction). In Study 2, subliminally priming Christians with positive religious words (e.g., “Heaven”) was further shown to weaken the association between PA and meaning in life, whereas subliminal primes of negative religious words (e.g., “hell”) weakened the association between religious commitment and meaning in life. A competition of cues model is proposed to account for these effects.

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Keywords: Religiosity; Meaning in life; Positive affect; Well-being

“...religious faith...satisfies...the most fundamental human need of all. That is the need to know that somehow we matter, that our lives mean something, count as something more than just a momentary blip in the universe.”

Rabbi Harold Kushner (1987).

[☆] This research was supported in part by NIMH R01-54142 and NIAAA T32-AA13526. We thank Nelson Cowan, Jamie Arndt, Ron Friedman, and David Myers for insightful contributions throughout the development of this project.

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1. Introduction

The experience of meaning in life has been recognized as an important contributor to health and well-being (e.g., Ryff & Singer, 1998; Wong & Fry, 1998). Indeed, in his classic work, Frankl (1963/1984) maintained that the need for meaning is a chronic, basic need (see also, more recently, Heine, Travis, & Vohs, 2006). The importance of meaning in life is supported by research demonstrating its relations to a number of mental health variables such as depression, anxiety, hope, and life satisfaction (Mascaro & Rosen, 2005; Reker, Peacock, & Wong, 1987; Ryff, 1989; Steger & Frazier, 2005; Zika & Chamberlain, 1987, 1992).

Although past research and theory has generally emphasized the notion that meaning in life leads to greater levels of subjective well-being, recent research has demonstrated that at least one aspect of well-being, positive affect (or PA), enhances the feeling that life is meaningful (King, Hicks, Krull, & Del Gaiso, 2006). In those studies, King and colleagues (2006) found correlational evidence for a strong relationship between PA and the experience of meaning in life, in general, and the experience of meaning in a day, even controlling for goal-directed activity, thought, and progress. Furthermore, induced PA caused enhanced meaning in life, particularly for those for whom no attributional cue for mood was provided (King et al., 2006, Study 5). These results indicate that, as with other abstract qualities of their lives, people may rely on mood as information when judging life's meaning.

The mood as information hypothesis posits that current mood may be used as a cue when making evaluative judgments (Schwarz, 2001; Schwarz & Clore, 1996). Essentially, when confronted with a question about an abstract quality of life, an individual might interpret his or her current feelings as relevant to the target (Schwarz & Clore, 1996). Positive moods, therefore, may lead to more favorable evaluations of meaning in life, to the extent that individuals interpret mood as relevant to the question of life's meaningfulness.

In the present studies, we examined judgments of meaning in life as a function of PA, religiosity and positive or negative religious primes. Before describing the studies, it may be helpful to briefly review the meaning of meaning in life, itself.

1.1. *The experience of meaning in life*

In the present studies and in our previous work, we have focused on the subjective experience of meaning in life or the feeling that life is meaningful. Most questionnaires used to measure meaning in life typically rely on respondents' subjective assessment that their lives feel meaningful. For example, consider these items drawn from measures of meaning in life, "My personal existence is very purposeful and meaningful" (from the Purpose in Life test, Crumbaugh & Maholick, 1964) and "I have a good sense of what makes my life meaningful" (from the Presence of Meaning Scale; Steger, Frazier, Oishi, & Kaler, 2006). These self-report measures tap into an intuitive understanding of meaning in life as a sense that one's life matters, that experiences are coherent, and that one has a sense of the answers to life's big questions (e.g., "Why am I here?"). This definition does not exhaust the concept of meaning in life (see Reker & Wong, 1988). However, research studying the relations of meaning in life as a broad construct (not necessarily meaning making about a particular event) has used these kinds of questionnaires and the results of that work speak to the importance of this phenomenological feeling of meaningfulness

to important mental health and well-being variables (e.g., Steger & Frazier, 2005). Thus, this subjective assessment of life's meaningfulness is the focus of the present investigation.

1.2. A competition of cues model for meaning in life judgments

When facing the question of life's meaningfulness, we suggest that individuals consult an array of indicators for the answer. Which indicators take center stage in the judgment of life's meaning may depend on aspects of the cues themselves. It seems logical that if possible, individuals will base a sense of meaning in life on relatively stable enduring indicators (such as religiosity). Indeed, one might imagine a hierarchy of cues, with those that are most self-definitional at the highest level (Hicks & King, in preparation). In contrast to these presumably high level cues, mood might be seen as relatively weak and unstable. As such, if alternative sources of information are available, PA should lose its capacity to predict meaning in life. From this perspective, meaning in life judgments ought to be reflective of indicators that share a meaningful relationship to the construct.

However, in judging a construct such as meaning in life, accuracy may not be of utmost concern. The experience of meaning in life is a valuable human experience, as the popularity of innumerable self-help books purporting to enhance meaning in life would attest. And, as already noted, meaning in life has been recognized as a central human motivation (Frankl, 1963/1984). Research on the folk concept of the good life has shown that meaning in life is a desirable attribute and one that is considered morally good (King et al., 1998; Scollon & King, 2004). The value of meaning in life suggests that individuals may be particularly motivated to find confirmatory evidence of the meaningfulness of their lives. Thus, the cues on which meaning in life judgments are based may not be those that are logically most relevant to the question but rather those that support an affirmative answer. Thus, the optimal cues for meaning in life judgments ought to be the most relevant (stable, enduring) cues that also provide evidence that one's life is, indeed, meaningful. The present studies represent an initial test of the implications of this proposed competition of cues model in predicting meaning in life.

In sum, although PA is one cue that life is meaningful, it likely sits alongside other potential sources of information. Indeed, mood is unlikely to be an optimal cue if a durable sense of meaning in life is adaptive. Rather, it makes sense that meaning in life should emerge from relatively stable aspects of life, such as religious faith, that also offer a positive answer to the question, "Is my life meaningful?"

1.3. Religion and meaning in life

Religion has long been recognized as a central source of meaning in life, providing individuals with core beliefs, expectations, and goals, and placing the individual's life into a larger, more ultimate context (Batson & Stocks, 2004; Emmons, 2005; Fletcher, 2004; Fry, 2000). A recent special issue of the *Journal of Social Issues* was devoted to the role of religious faith as a meaning system (Silberman, 2005). A variety of aspects of psychological well-being have been shown to be associated with religiosity, including meaning in life (George, Ellison, & Larson, 2002). Religious conversion has been shown to relate to enhancement in meaning in life (Paloutzian, 1981). Religious faith is a strong correlate to the experience of meaning in life and well-being more broadly (Steger & Frazier,

2005). And recent research has shown that meaning in life mediates the psychological benefits associated with religiosity (Steger & Frazier, 2005).

Religion would also seem to be a fairly common avenue to the experience of meaning. According to a recent poll, over 80% of adults in the United States believe in God and 59% say that religion is very important in their daily lives (CBS News Poll, April 2006). Religious faith, then, might be a chronically salient source of meaning in life that is also positively related to the experience of meaning. The present studies examined whether religiosity, or primed religious concepts, would moderate the relationship between PA and meaning in life.

1.4. Overview and predictions for Study 1

Study 1 examined whether religious commitment would moderate the mood as information effect, using both naturally occurring (Sample 1) and induced (Sample 2) PA. It was predicted that PA would lead to enhanced meaning in life, only for those low in religiosity. Thus, we predicted that religious commitment would interact with PA to predict meaning in life, such that those low on religious commitment would be most likely to show the mood as information effect. Additionally, in Sample 1, we included a measure of another global life domain, life satisfaction, to examine whether the predicted effects are specific to meaning in life or generalize to another general aspect of life.

2. Study 1

2.1. Method

2.1.1. Participants

Sample 1 included 150 students (108 women) who completed a short questionnaire packet for extra credit in a psychology class. Sample 2 included 61 students (51 women) who completed a short questionnaire packet, and participated in a mood induction study. Ages ranged from 18- to 51-years-old ($M = 20.58$, $SD = 3.35$). Represented ethnicities were 84% White/European American, 8% African American, 6% Asian-American, and 2% “other.”

2.1.2. Materials and procedure

2.1.2.1. Naturally occurring mood. Sample 1 participants rated themselves on 6 positive mood items on a scale from 1 (not at all) to 7 (extremely much) to provide a measure of current PA. Items included, “happy,” “joy,” “self-confident,” “pleased,” “satisfied,” and “enjoyment/fun” (from Diener & Emmons, 1984; $M = 4.87$, $SD = .92$; scale; $\alpha = .88$). After completing the PA measure, participants rated their meaning in life on four items from the Purpose in Life test (PIL; Crumbaugh & Maholick, 1964; $M = 4.89$, $SD = 1.40$, $\alpha = .90$). The four items included, “In life, I have very clear goals and aims,” “My personal existence is very purposeful and meaningful,” “I have a clear goal and a satisfying purpose in life,” and “I regard my ability to find a meaning, purpose, or mission in life as be very great.” These items have been identified as tapping meaning in life, specifically, and not simply PA (King et al., 2006; McGregor & Little, 1998).

Next, participants completed the five-item Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) as a measure of life satisfaction. Items on the SWLS

include, “My life is close to my ideal,” “The conditions of my life are excellent,” “I am satisfied with my life,” “So far I have gotten the important things I want in life,” and “If I could live my life over, I would change almost nothing.” Items were rated on a scale from 1 (very slightly or not at all) to 7 (extremely; $M = 4.41$, $SD = 1.24$, $\alpha = .87$).

Finally, participants completed the Religious Commitment Inventory-10 (RCI-10; Worthington, Wade, Hight, Ripley, & McCullough, 2003), a 10-item scale that assesses religious commitment ($M = 3.20$, $SD = 1.66$, $\alpha = .96$). Items include “My religious beliefs lie behind my whole approach to life,” “I spend time trying to grow by understanding my faith,” “It is important for me to spend periods of time in private religious thought and reflection,” “Religious beliefs influence all of my dealings in life,” “Religion is especially important to me because it answers many questions about the meaning of life,” “I often read books and magazines about my faith,” “I enjoy working in the activities of my religious organization,” “I enjoy spending time with others of my religious affiliation,” “I keep well informed about my local religious group and have some influence on its decisions,” and “I make financial contributions to my religious organization.” Note that this questionnaire appeared as the final measure in the packet and was separated from the meaning in life questionnaire by a variety of filler questions pertaining to a broad range of individual differences. The number of items separating the measures was greater than 100, removing the possibility of priming effects.

2.1.2.2. Mood induction. Sample 2 participants completed a short questionnaire packet, including the RCI-10 ($M = 3.47$, $SD = 1.63$, $\alpha = .95$) approximately 3 weeks before completing a laboratory session. During the laboratory session, participants were told they would be completing two unrelated tasks. The first task involved rating a piece of music on various dimensions. In the positive mood condition, participants listened to *Bach’s Brandenburg Concerto No. 3*, jazz version by Herbert Laws, for 6 min. In the neutral mood condition, participants listened to *Common Tones in Simple Time*, by John Adams, for 6 min. Both pieces have been shown to successfully induce positive and neutral mood, respectively, in previous research (e.g., Wenzlaff, Wegner, & Roper, 1988). After listening to the music, participants rated the music on eight items, one of which, “Overall, how did the music make you feel,” served as a manipulation check. This item was rated on a scale from 1 (very sad) to 7 (very happy; $M = 4.96$, $SD = .98$). Following the mood induction, Sample 2 participants completed the “second task,” which, among other things, included rating their meaning in life on the same four items from the PIL described above ($M = 5.11$, $SD = 1.42$, $\alpha = .82$).

2.2. Results and discussion

2.2.1. Naturally occurring PA, religiosity, satisfaction with life, and meaning in life

Correlations computed among the measures completed by Sample 1 revealed that all variables were significantly and positively correlated. Religiosity was significantly related to meaning in life ($r = .40$) and PA ($r = .22$). Likewise, PA and meaning in life were significantly related ($r = .46$). Finally, life satisfaction was significantly correlated with religiosity ($r = .17$), PA ($r = .57$), and meaning in life ($r = .46$; all p 's < .05).

2.2.2. PA, religiosity, and meaning in life

In order to examine the predicted interaction of naturally occurring PA and religiosity as a predictor of meaning in life, a hierarchical regression equation was computed for the

data in Sample 1. PA and religious commitment scores were converted to mean–deviation scores and the product of these centered PA and religiosity scores was used as the interaction term (Aiken & West, 1993). Along with the main effects of PA and religiosity, age was entered on the first step as a covariate. Significant main effects entered on first step (R^2 change = .31, $p < .001$; PA $\beta = .39$, $p < .001$; religiosity $\beta = .31$, $p < .001$) were qualified by a significant two-way interaction entered on second step (R^2 change = .03, $p < .05$; $\beta = -.16$). The generated means for this interaction, for participants who were one standard deviation above or below the mean for the predictor variables, are shown in Fig. 1a. Fig. 1 suggests that, as predicted, those high in religiosity relied less on mood as information about the meaningfulness of their lives compared to those low on religiosity.

2.2.3. PA, religiosity, and satisfaction with life

Next, analyses turned to life satisfaction as a dependent measure. These analyses examined whether the pattern of effects was specific to meaning in life judgments or would obtain for judgments of any general life domain. Life satisfaction was regressed on (centered) PA, religious commitment, and their interaction, in a hierarchical regression equation. The main effects, along with age as a covariate, were entered on first step contributing a significant change in R^2 (R^2 change = .33, $p < .001$); with PA ($\beta = .56$, $p < .001$) predicting enhanced life satisfaction. However, in contrast to results for meaning in life, the two-way interaction, entered on the second step, was not significant (R^2 change = .00, $p = .37$). These results suggest that the influence of religious commitment on the relationship between PA and meaning in life does not generalize to other abstract life judgments such as life satisfaction.^{1,2}

Thus, in sum, results from Sample 1 indicate that, as predicted, both PA and religious commitment relate to meaning in life, but these relations are qualified by a significant interaction, such that those high in religious commitment are less likely to show the robust relationship between PA and meaning in life. In addition, analyses demonstrated that this pattern of results did not generalize to another general domain, life satisfaction. Sample 2 allowed for an examination of the same predictions, but with induced rather than naturally occurring mood.

2.2.4. Induced mood, meaning in life, and religiosity

For Sample 2, correlations were again computed among the variables of interest. As expected, based on the previous findings, both condition (0 = neutral, 1 = positive) and religiosity were positively correlated with meaning in life (r 's = .26 and .28, respectively, both p 's < .05). Religious commitment was not related to condition ($r = .10$, $p = .23$), indicating that random assignment distributed this variable across the two mood groups. In addition, a t -test revealed that the positive mood condition ($M = 5.35$, $SD = .99$) did significantly differ from the neutral mood condition ($M = 4.53$, $SD = 1.11$; $t(59) = 3.07$, $p < .001$).

¹ Interestingly, meaning in life completely mediated the relationship between religiosity and PA ($p < .001$). This finding further supports previous research that showed that meaning in life mediated the relationship between religiosity and other well-being variables (Steger & Frazier, 2005).

² Although the role of PA in the relation of meaning in life and life satisfaction was not a focus of the present investigation, this topic may be of interest to well-being researchers. Partial correlations were computed between meaning in life and life satisfaction, controlling for PA. After controlling for PA, the partial correlation between meaning in life and satisfaction with life was significant ($pr = .39$, $p < .001$).

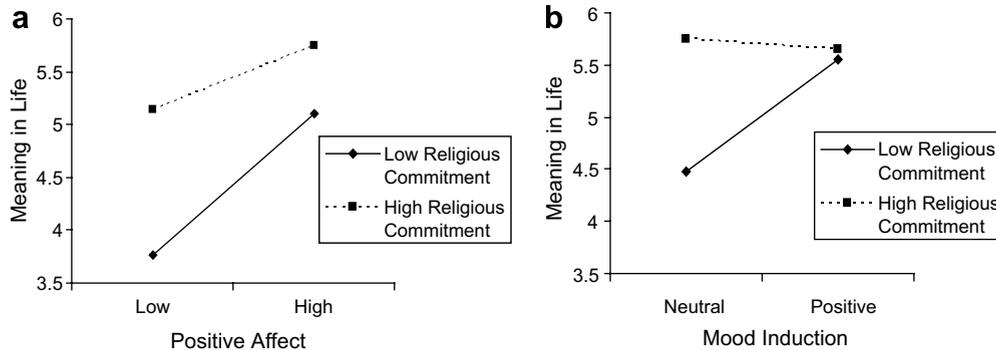


Fig. 1. Meaning in life as a function of naturally occurring and induced PA and religious commitment, Study 1.

To examine the effects of induced mood and religiosity on meaning in life ratings, a hierarchical regression equation was computed. The main effects of mood induction condition (0 = neutral, 1 = positive), religiosity, and age were entered on the first step of the equation. The product of condition and religiosity was entered on the second step of the analysis. Significant main effects entered on the first step (R^2 change = .16, $p < .05$; β for condition = .24, $p < .06$; and β for religiosity = .26, $p < .05$) were qualified by a significant two-way interaction entered on the second step (R^2 change = .06, $p < .05$; $\beta = -.36$, $p < .05$).

As in Sample 1, the two-way interaction indicated that the positive mood induction led to higher meaning in life for individuals low in religiosity, but not for individuals high in religiosity. Generated means for this interaction are shown in Fig. 1b. Clearly, using both naturally occurring and induced mood, religiosity moderated the relationship of mood to meaning in life. Fig. 1b may raise concerns about a ceiling effect for meaning in life judgments for the highly religious. We take up this issue in Section 4.

In accord with predictions, the results of this study suggest people are less prone to use their mood as information about the meaningfulness of their lives when they possess another relevant and confirmatory cue, in this case high levels of religiosity. One might conclude that religious faith is a “preferred” cue to meaning in life, given its durability and positive association with meaning in life. One question left open by the results of Study 1 is the degree to which religious commitment is an unambiguously positive source of meaning in life. Study 2 examined the question of what individuals would do if this source of meaning in life was rendered less likely to provide a positive cue to meaning in life.

2.2.5. Overview and predictions for Study 2

In Study 2, participants (who were all self-identified Christians) completed measures of mood and religious commitment and were then subliminally primed either with words associated with religion or with neutral words. After priming, they rated their meaning in life. The religious primes, though all associated with Christianity, represented either positive (e.g., “Heaven,” “Salvation,” etc.) or negative (“Hell,” “Damnation,” etc.) outcomes for Christians. It was predicted that priming with religious words, like religiosity itself in Study 1, would moderate the relation of mood to meaning in life, so that those

who were primed with either heaven-related words or hell-related words would be less likely to use mood as a cue to meaning in life. In other words, we expected prime content to interact with PA in predicting meaning in life.

We also considered the implications of the priming manipulation on the relationship between religious commitment and meaning in life. The hell-related primes might render ambiguous the affirmative answer to the meaning in life question that is suggested by one's religiosity. Thus, we predicted that those primed with hell-related words would be less likely to base their meaning in life judgments on their religious faith, producing a two-way interaction between prime content and religious commitment in the prediction of meaning in life judgments.

Finally, we examined whether being primed with negative religious concepts might lead participants to be relatively more reliant on PA than religious faith as a source of information about meaning in life, that is testing the two-way interactions of primes and religious commitment as predictors of meaning in life judgments.

3. Study 2

3.1. Method

3.1.1. Participants

One-hundred and three students (80 women) participated for credit in psychology classes. Ages ranged from 18- to 24-years-old ($M = 20.17$, $SD = 1.39$). Represented ethnicities were 94% White/European American and 6% African American. All participants identified themselves as Christians on a questionnaire packet administered at the beginning of the semester. In addition to various demographic items, the questionnaire packet also contained the RCI-10 as a measure of religious commitment ($M = 3.47$, $SD = 1.62$, $\alpha = .96$).

3.1.2. Materials and procedure

Approximately 6 weeks after completing the questionnaire packet, participants completed a short laboratory session, in which they were escorted into a private cubicle. A computer, using DirectRT precision timing software v2004.1.0.37™ and MediaLab v2004™ software, and a 17 in. Dell color CRT monitor was used to administer all tasks.

3.1.2.1. Affect measure. Participants rated the same six positive mood adjectives from Sample 1 to provide a measure of current PA ($M = 4.36$, $SD = 1.00$, $\alpha = .88$).

3.1.2.2. Parafoveal priming task. Next, participants completed a parafoveal priming task. They were instructed that a + would appear in the middle of the screen, followed by a stimulus presented either on the right or left side of the screen. Their task would be to indicate which side of the screen the stimulus appeared by pressing either a red circle (the “;” key) if the stimulus appeared on the right, or a green circle (the “a” key), if the stimulus appeared on the left. They were instructed to focus only on the + throughout the task. Fifty words were displayed randomly on the right or left side of the screen. Primes were presented in the parafoveal region of vision: 2–6° of visual angle (Bargh & Chartrand, 2000). Words were displayed for 50 ms and immediately masked by a string of letters (“XQFBZRMX”). All responses were made within 2 s. In the “heaven” condition, primes were words with positive connotations for Christians (e.g., heaven, god, salvation). In the

“hell” condition, primes were words that have negative connotations for Christians (e.g., hell, satan, damnation). In the neutral condition, the primed words were unrelated to religion (e.g., hubcap, ripple, violin).

After the priming task participants completed a 1-item post mood measure “Overall, how do you feel right now” from 1 (very sad) to 5 (very happy) ($M = 3.58$, $SD = .81$), as well as the four PIL items to assess meaning in life ($M = 5.01$, $SD = .96$, $\alpha = .85$).

Finally, participants were probed for suspicion and asked whether they recognized any of the primed words. None of the participants expressed any suspicion or conscious awareness of the primes.

3.2. Results and discussion

Correlations were computed among the variables of interest. As expected, both PA and religiosity were positively correlated with meaning in life (r 's = .29 and .35, respectively, both p 's < .05). Religiosity, however, was not significantly related to PA ($r = .13$, $p = .18$). A one-way ANOVA revealed no mood differences among the prime groups ($p = .64$; $M = 3.52, 3.67, 3.66$, $SD = .78, .66, .91$, for heaven, hell, and control primes, respectively).³

To examine the effects of the interaction of PA, religiosity, and primes on meaning in life, a hierarchical regression equation was computed. Two dummy variables were created, the first comparing the positive religious prime group to the other conditions (1 = heaven, 0 = not heaven), and the second comparing the negative religious prime group to the other conditions (1 = hell, 0 = not hell). PA and religious commitment scores were centered. Two-way interactions were represented by the products of PA and religious commitment (with each other) and these variables with each of the dummy variables. Finally, two three-way interactions were also created using the products of PA, religiosity, and each dummy variable.

Main effects, entered on first step, produced a significant change in R^2 (R^2 change = .19, $p < .001$), with PA ($\beta = .25$, $p < .01$) and religiosity ($\beta = .32$, $p < .001$) significantly related to enhanced meaning in life. These main effects, however, were qualified by significant two-way interactions entered on the second step (R^2 change = .11, $p < .05$). First, the heaven-prime \times PA interaction was significant ($\beta = -.38$, $p < .01$). Second, the hell-prime \times religiosity also significantly predicted meaning in life ($\beta = -.23$, $p < .05$). We decomposed each interaction by prime condition in order to examine the pattern of results for meaning in life.

Recall that we had predicted that the religious primes would erase the effects of PA on meaning in life judgments. Analysis of the heaven-prime \times PA interaction provided partial support to this prediction. Fig. 2 shows the slopes for each prime group. PA predicted meaning in life scores for participants in the control condition ($\beta = .55$, $p < .001$) but not for individuals in the heaven-prime condition ($\beta = .03$, $p = .88$), while the hell-prime group fell in between ($\beta = .34$, $p < .08$). Only the heaven and control groups significantly

³ Although conditions did not differ on post mood, a separate regression equation was computed to examine whether religious commitment would moderate the effect of the primes on post mood. For this analysis, the dummy variables and religiosity were entered on the first step, and the products of each dummy variable with the religiosity scores were entered on the second step. Neither of the main effect, nor the effects of the interactions were significant (all p 's > .34).

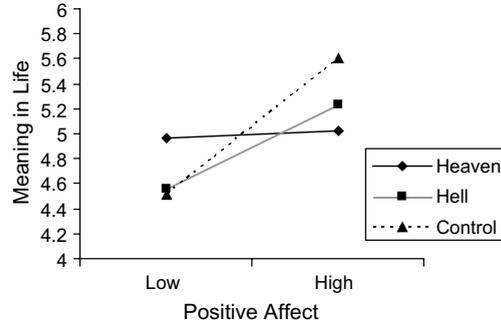


Fig. 2. The relation of PA to meaning in life, as a function of religious prime condition, Study 2.

differed. Thus, priming participants with a positive cue to meaning in life (that is also rooted in a stable belief system) reduced reliance on PA in meaning in life judgments.

We next turned to hell-prime \times religious commitment interaction. Recall that we had predicted that the hell-prime would reduce the relationship between religious commitment and meaning in life. Examination of the betas for the prime conditions showed that religious commitment positively predicted meaning in life scores for participants in the control and heaven conditions (both β 's = .40, $p < .01$). However, in the hell-prime group, religious commitment no longer predicted meaning in life ($\beta = -.04$, $p = .81$). Fig. 3 shows the slopes predicting meaning in life from religious commitment for all prime conditions. As can be seen in the figure, the hell-prime effectively removed the relationship between religious commitment and meaning in life. Apparently, when reminded (at some level) of the potential negative implications of religious belief system for meaning in life, religious commitment became a less preferred source of information for the judgment.

Neither of the three-way interactions were significant (both p 's $> .17$), indicating that, while the hell-primers did lead to less dependence between meaning in life and religiosity, they did not necessarily enhance reliance on PA. Of course, as with any null findings, these results could be due to lack of power to detect the effect.

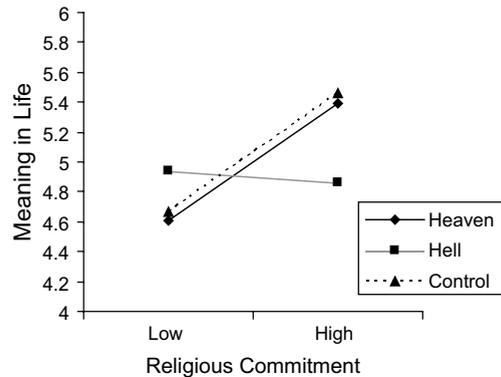


Fig. 3. The relation of religious commitment to meaning in life, as a function of religious prime condition, Study 2.

4. General discussion

Meaning in life shares a robust relationship with PA (King et al., 2006, and the current results). These studies provide support for the conclusion that the relationship between PA and meaning in life is moderated by religious commitment. In all analyses, a consistent pattern emerged: at high levels of religiosity or in conditions including positive religious primes, the systematic relation of PA to meaning in life was erased. At low levels of religious commitment or conditions including control or negative primes, PA shared a positive association with meaning in life. Additional analyses showed that, at least with naturally occurring PA, this pattern of moderation did not emerge for another global life judgment, life satisfaction. Furthermore, results indicate that priming Christians with hell-related words wiped out the relationship between meaning in life and religious commitment. These results have implications for our understanding of the important construct of meaning in life.

The availability of information about potentially meaningful aspects of life may lead that information to be incorporated into meaning in life judgments. High levels of religious commitment may indicate that religious sources meaning are chronically salient (hence the results of Study 1). However, the availability of cues to life's meaning is no guarantee that these cues will be used in meaning in life judgments. In Study 2, those who were primed with reminders of hell no longer relied on religious commitment as a source of information about meaning in life.

Given the finding that negative religious primes moderated the relationship between religiosity and meaning in life, one might expect such primes would lead individuals to rely more on their PA when making meaning judgments. However, the analyses for Study 2 did not support the notion that religious individuals primed with hell-related words defaulted to mood as a source of information about meaning in life. Contrary to expectations, PA predicted meaning in life similarly for individuals in the negative religious prime condition as it did for individuals in the control condition. Similarly, although positive religious primes attenuated the mood as information effect, these primes did not lead to more reliance on religious commitment compared to the control condition. One possible explanation for these findings is that individuals in these conditions used a viable cue that was not measured in the current study when making their meaning in life judgments. For example, instead of using their religious commitment as a cue, individuals in the negative prime condition might have relied more on other potential stable sources of meaning (e.g., important goals) when making their meaning in life judgments.

Indeed, these results highlight an important distinction between what researchers choose to measure and what information participants use to make meaning in life judgments. Results do not indicate that individuals who are low in religious commitment are necessarily susceptible to mood as information effects. Non-religious people may find meaning in life from a variety of sources (e.g., psychological need satisfaction, self-efficacy, secular world-views, to name a few). Hence, it is possible that other variables, besides religious commitment, also serve as strong cues about life's meaningfulness. To the extent that these other sources of meaning facilitate the development of a stable meaning system, individuals "high" on any of these sources might be likely to show both enhanced PA and meaning in life. Measuring these sources of meaning would allow us to examine the extent which those with alternative sources of meaning would be less likely to use mood as information when rating their meaning in life.

Identifying these potential moderators is important to help explain the relation between PA and meaning for such individuals.

Recent research has examined this issue showing that other variables, in addition to religiosity, moderate the mood as information effect. For example, the saliency and breadth of one's meaning system, operationalized by faster reaction times to meaning relevant words (e.g., friends, self-worth, justice, etc.) and listing more sources of meaning in life, attenuates the mood as information effect, regardless of level of religious commitment (Hicks & Kings, submitted for publication-a). Moreover, other studies have shown that priming individuals with words related to another important source of meaning in life, social connectedness, further moderates the relationship between PA and meaning (Hicks & King, submitted for publication-b). Specifically, individuals primed with positive words related to social connectedness (e.g., companion, buddy, etc.) were less reliant on PA when making meaning in life judgments. Perhaps even more interestingly, results of a second study showed that individuals primed with negative words associated with social connectedness (e.g., alone, outcast, etc.), were actually *more* reliant on PA compared to individuals in a neutral condition.

This emerging work and the present results provide some evidence with regard to the proposed competition of cues model for meaning in life judgments and point to important aspects of the process of judging life's meaning that remain to be addressed. In evaluating their meaning in life, we have suggested that individuals use information that is, optimally, relatively stable and relevant to the question but also likely to confirm that, indeed, one's life is meaningful. The present results suggest that for those high in religious commitment, religious faith is an important and durable source of information about life's meaning (Study 1). However, if this source of meaning is rendered suspect, it no longer predicts meaning in life (Study 2). When primed with hell-related words, the experience of meaning in life was no longer accounted for by religious commitment, suggesting that other cues might account for this experience. The present results do not speak to what those cues might be, though no evidence emerged for privileging of mood over religious commitment in this case.

The present findings also bear upon the classic distinction between hedonic and eudaimonic forms of well-being (cf. Aristotle, 350 BC/1962 CE). Hedonism is characterized by the pursuit of pleasure, whereas eudaimonia often refers to the pursuit of more "meaningful" endeavors associated with one's core values or authentic self (Ryan & Deci, 2001; Ryff, 1989; Waterman, 1993). Researchers have argued that these forms of well-being are distinct and can be independent of each other, though empirical findings have shown that these variables are often strongly linked (e.g., King et al., 2006; Ryan & Deci, 2000, 2001). With regard to the present findings, it could be argued that eudaimonic concerns are more central for those individuals high in religious commitment, leading to a more durable (and chronically accessible) sense of how one's life is meaningful. Therefore, even in the absence of pleasure, per se, individuals high in religious commitment are likely to experience enhanced eudaimonia, in the form of meaning in life.

These studies are limited by the fact that the moderator considered (here, religious commitment) is positively related to meaning in life. A test of the motivational component of answering questions about meaning in life might require the measurement or priming of variables that are unequivocally negatively related to meaning (e.g., suicide, accidental deaths, and unpredictable natural disasters). Main effects for such variables would be expected to be in the direction opposite of those found here for religious commitment, that

is, priming associates of meaninglessness should reduce meaning in life. Examining whether such variables would show moderation of the relationship between PA and meaning in life would allow for a test of the notion that making meaning in life judgments involves a motivated search for confirmatory evidence. Would those primed with meaninglessness default to mood as information about life's meaning in order to avoid the negative implications of the moderator?

4.1. Does it matter where the sense of meaning comes from?

One question that emerges from this discussion is whether it matters which cues one uses to judge life's meaning. In "man's search for meaning," does it matter where the answer is found? Confronted with the question of whether one's life is meaningful, a person might consult his or her mood, or standing with regard to other important life outcomes, such as religious faith. Given that previous research has asked simply about the subjective sense of meaning, we do not know what type of information was used when forming these judgments. Is the feeling of meaning equally meaningful if it comes from mood vs. religious commitment? PA might be a very effective cue under some circumstances. For example, PA may inform the individual who has lost his job that, despite the temporary loss of an important source of meaning, his life is still meaningful. That is, when things are going poorly overall, there might value in the boost to the experience of meaning in life that comes from PA. Future research on meaning in life must begin to assess sources of life's meaning in order to answer this important question.

One issue that warrants further discussion is the potential ceiling effects in examining moderation of the relation of PA to meaning in life with highly religious individuals (Fig. 1b). Clearly, religious commitment is strongly related to meaning in life. A comparison of the results for Study 1 and Study 2 provides an intriguing take on this issue. Although for Study 1 religiosity was related to very high levels of meaning in life, the priming procedures used in Study 2 (where there was still a main effect for religious commitment on meaning in life), appear to have tempered meaning in life judgments. It may be that priming individuals with the ultimate concerns of religious faith rendered their judgments of meaning in life more realistic or more conservative. In the absence of religious primes, the range of information used to make judgments about meaning in life may have been more inclusive. Thus, the religious primes may have restricted attention to specific aspects of life associated with meaning. Drawing attention to a particular life domain may change the meaning of meaning in life or alter the range of information that seems relevant to the judgment.

4.2. Limitations

Although these results indicate that religious commitment may serve an important role in individuals' experience of meaning, the present study did not examine the motives behind this commitment. According to Allport (1950), there are two types of religious orientations, intrinsic (mature) or extrinsic (immature) (see also, Batson & Ventis, 1982; Ryan, Risby, & King, 1993, for alternative approaches). Individuals with an intrinsic religious orientation seek value and meaning through their religion. In contrast, extrinsic religious orientation entails the use of religious faith as a means to gain external rewards. From an extrinsic orientation, religious faith and participation may serve self-protection or social status motives. Given this distinction, it may be, for example, only individuals

with intrinsic religious orientations develop a durable meaning system through their religious commitment. Or perhaps, both types of religious orientations lead to durable meaning systems, but those two systems are markedly different from each other. Future research should distinguish individuals' motives for their religious commitment to better understand the moderating influence of religious commitment.

Future research might also examine PA that is experimentally induced by relatively meaningful vs. meaningless manipulations to differentiate the effects of PA that emerge from meaningful endeavors and that which is simply transient mood. Perhaps some positive moods are more likely to engender "real" meaning than others. It may be that the PA that is experienced after successfully completing a challenging task (i.e., fulfilling organismic needs) is less easily "discounted" even when the individual is high in religiosity, for example. In addition, repeated measures of mood and sources of meaning may be needed to address how the fluctuations of these variables relate to the sense that life is meaningful. An account of the role of PA and meaning in life might require methodologies that allow for the effects of PA on more distal processes, over time.

The outcome that was the main focus of these studies was the subjective sense of meaning. One important ambiguity is the extent to which religious commitment might be involved in individual's personal definitions of meaning. That is, it might be that the intuitive sense of meaning that we measured is informed by one's values or philosophy of life. As such, when asked about life's meaning, they may be answering about a variable that is deeply personalized. Indeed, future research might examine whether the availability of sources of meaning actually changes the meaning of meaning, itself.

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