AN INVESTIGATION OF THE PSYCHOLOGICAL UNDERPINNINGS AND BENEFITS OF RELIGIOSITY AND SPIRTUALITY

A Dissertation

by

JERRELL FRANKLIN SMITH

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2012

Major Subject: Psychology

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ABSTRACT

An Investigation of the Psychological Underpinnings and Benefits of Religiosity & Spirituality. (August 2012)

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Evolutionary theory provides a useful framework for understanding the possible genesis and benefits of spirituality and/or religiosity. Research within psychology on Attachment and Object Relations Theory indicates congruence between the way we relate and perceive others and the way we relate to and perceive "God". In addition research has indicated that spirituality and religiosity in general are related to better health outcomes. This study examined the possible differential benefits of using the Pennebaker Written Emotional Disclosure paradigm with or without a spiritual/religious framework. Furthermore, it was hypothesized that any incremental benefits would be moderated by attachment style and level of object relations development. This study provided no support for either a differential effect of writing instructions or for a moderating effect of attachment style or level of object relations development. Implications and suggestions for future inquiry are discussed.

DEDICATION

To all those who supported and invested in me from the beginning to the end of this experience; Stephen & Cathy Smith, and Margaret Butchee who are still with me, Benny Jerrell Butchee whom I knew only a short time, Floyd Franklin Smith whose birthday I shared and Hazel Irene Turner Smith whose mark and personality are stamped on me more clearly than any other.

To the Faculty who formed my academic parentage; Brian Stagner, Mary Meagher, Doug Snyder, and my Therapist who filled the role of my paternal Grandmother and helped me into a fuller life… Deborah Voorhees.

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1. INTRODUCTION

Throughout history, spirituality and religiosity have played a role in the shaping of the human experience. Scientists and philosophers from many disciplines have in recent years begun to look into the phenomena of religiosity and spirituality with renewed interest. Within psychology proper, some of our most recognized academic ancestors and contemporaries have lent their intellects to the topic (Freud, 1927, James, 1902, Kernberg, 2000).

Possible origins of spirituality/religiosity

An inevitable question concerning the subject of spirituality and religiosity, and a good place to start, is the question of origins. For many people who have a spiritual/religious world view this is a moot question that is answered by the tenants of their faith. However, for those in the sciences the question is a legitimate one, especially in light of evolutionary theory which has come to color the majority of thought within the humanities and biological sciences. For clarification "religion" refers to the substance or the details of a faith system; actions and beliefs and is most often associated with institutions. "Spirituality" on the other hand has been used to denote the functional capacity of a faith or set of beliefs and is associated with a less structured more personalized relationship with the Sacred (Zinnbauer, Pargament, Cole, Rye, Butter, Belavich, Hipp, Scott, & Kadar, 1997).

This dissertation follows the style of *Personality and Individual Differences*.

Compelling arguments have been made to suggest that religiosity and spirituality may be offshoots of other more immediately beneficial adaptations that have developed over our long history. This is a concept Gould gave the varying label of "exaptation" or "spandrel" (Gould, 1991). Exaptations are off-shoots that are themselves adaptive, though did not evolve because of the latter adaptive benefit. A spandrel is an offshoot that has no adaptive value of its own.

Several promising insights come from the application of evolutionary theory to the development and maintenance of spirituality/religiosity. Rossano proposes the converging of three aspects of our evolutionary development as creating the opportunity for the development of a belief in the supernatural (Rossano, 2006). Rossano argues that humans and other animals are given to assigning causality. This increases chances of survival and reproduction as it may lead to actively searching for a cause such as the rustling of leaves or the snapping of a twig which may be the wind, a predator, or prey. Over-assigning causality is more adaptive than under-assigning and may have, through natural selection, led to our ancestors, and consequently ourselves, being a particularly cause-assigning species. This may have translated into over-assigning and anthropomorphizing natural phenomena, such as the wind or rain, as being directed by unseen forces.

Furthermore, as our mental capacities and ingenuity increased, we hominids found ourselves in the peculiar position of competing primarily with each other for resources. In this new environment those of our ancestors who were able to participate cohesively and enforce cohesiveness in a larger group were more likely to be successful

in the struggle for resources and pass on their genes. Rossano notes there is a natural capacity for guilt when we fail the group, and pride when we do well, combined with vengeful anger when others let us or the group down. These are highly adaptive traits to working within and maintaining a group and could have been easily harnessed or transformed into religious sentiment (Rossano, 2006, Rossano, 2007).

The third factor Rossano proposes leading to the development of a belief in the supernatural is our episodic memory. Episodic memory allows for the creating of narratives to explain the temporal memories of our experiences, it allows us to remember and know the possibility of pain and death which can induce existential anxiety (Rossano, 2006). Given that evolutionary framework let us now turn to how mainstream psychology has approached the topic of Spirituality/Religiosity.

Defining the construct

The study of religiosity and/or spirituality is dominated by many questions and areas of interest but perhaps the most vexing of these has to do with what exactly it is. Is it useful to think of religiosity and spirituality as one concept, or two, or more for that matter (Hill, 2005)? The term "spirituality" itself was not widely used until the 1980s (Zinnbauer & Pargament, 2005). The earliest definition within psychology was that of James in which he defined religion as "the feelings, acts, and experiences of individual men in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider the sacred" (James, 1902). After James, the psychological investigation of religion, as it was then a singular concept in the field, went into a

hibernation of sorts as did any struggles to clearly define and operationalize the concepts of spirituality/religiosity.

In the 1960s, during a time of significant social and racial tension, Gordon Allport took the first serious look at religion, in years (Allport & Ross, 1967). As noted above until around the 1980s the word spirituality was not used. Allport and Ross were interested in how prejudice related to religiosity and he found that, though for the most part, religious people were more prejudiced than non-religious people there was a significant minority that were less prejudiced than non-religious people. Allport and Ross proposed a differentiation between "intrinsically" motivated "religious" people and "extrinsically" motivated religious people. In Allport and Ross's conceptualization "extrinsically" motivated people use religion as a means to their own ends such as comfort or social acceptance while "intrinsically" motivated religious people find their "master motive" in religion. For these individuals religion or their adopted creed holds primacy over all other intentions and designs, and serious effort is made to internalize this creed and live it out (Allport, Ross, 1967). Allport and Ross developed one of the first measures of religiosity, measuring people along these two dimensions.

Since that time the way psychologists have approached the amorphous concept of religiosity and/or spirituality has changed significantly. Though the general concept has proven useful, Allport and Ross's relatively simple measure has mostly been supplanted by instruments which assess multiple dimensions of religious/spiritual experiences and beliefs. In addition some researchers have even called into question the basic

conceptualizations on which the instrument was constructed (Burris, Batson, Alststaedten, & Stephens, 1994).

Since that time, as briefly touched on above, the trend that has emerged has been to use the term "religion" to denote substance or the details of a faith system, is usually associated with an institutionalized set of beliefs, and is used as a broad term covering actions and beliefs. "Spirituality" on the other hand has been used to denote the functionality or what it does for the individual and is usually associated with a less structured more personalized relationship with the Sacred (Zinnbauer, Pargament, Cole, Rye, Butter, Belavich, Hipp, Scott, & Kadar, 1997).

Empirical inquiry has shown that within the general population within the way that individuals think about their own "religiosity" or "spirituality" there are areas of overlap as well as areas of divergence (Zinnbauer, et.al, 1997). This study involved 346 individuals from Pennsylvania and Ohio. They were from denominations and institutions that were predicted to have differing conceptualizations and levels of religiosity and spirituality. As predicted, 'religiosity" seemed to be associated with "higher levels of authoritarianism, religious orthodoxy, intrinsic religiosity, parental religious attendance, self-righteousness, and church attendance." Furthermore "spirituality" was associated with "mystical experiences, New Age beliefs and practices, higher income, and the experience of being hurt by the clergy". In terms of the definitions that participants offered, spirituality was most often described in "personal or experiential terms such as belief in God or a higher power or having a relationship with God or a higher power", whereas religion was described in the same terms with the addition of beliefs and ties to

a religious community or church and the beliefs associated with that institution or organization (Zinnbauer, et.al, 1997). Though primarily the study accentuated the differences in the way the participants thought about the two concepts, it also recognized in the analyses some overlap in the two concepts with the majority of the participants rating themselves as both religious and spiritual.

The issue of operationalizing and even more basically differentiating or not differentiating religiosity and spirituality and the consequences of that decision is one that is not yet resolved. However, the trend does seem to be, both in the general public and within the research community that religiosity and spirituality are both concerned with the sacred or transcendence but that religiosity is associated with a more structured institutionalized and ritualized approach whereas spirituality is associated with a more personalized approach to the sacred (Zinnbauer & Pargament, 2005).

To date there is not an empirical basis, other than the common understanding, of recognizing a difference between the concepts of religiosity or spirituality. The common understanding also indicates the use of spirituality as a broader term under which religiosity is subsumed. This approach in which Spirituality is the broader concept is supported by Zinnbauer (Zinnbauer, 2005). Specifically Zinnbauer describes "spirituality" as "a personal or group search for the sacred". Religiosity is defined as a "personal or group search for the sacred that unfolds within a traditional sacred context". Furthermore in theistic religions such as Christianity, Judaism, and Islam the sacred is viewed as a supernatural being which is appealed to and seen as responsive (Kirkpatrick, 2005).

For these reason and for clarity within the remainder of this document the term "spirituality" will be used to refer to the general phenomena of being concerned and searching for the sacred independently of a traditional or codified set of beliefs or institutional structures. "Religiosity" will be used specifically when that search is within the context of a traditional or codified set of beliefs or institutional structures. When the concept of the search for the sacred in general is referred to, the abbreviation S/R will be used. In all instances following Kirkpatrick's work (Kirkpatrick, 2005) these terms will be used in the context of a degree of belief in a supernatural being. S/R will be the more prevalently used as this study is concerned with the effects of the search for and response to the sacred in general regardless of modality or method.

Beyond the murky definition of the construct lie several measurement issues. Among the several problems of measurement, the majority of the measures used for assessing S/R have been normed on Judeo-Christian samples making them feasibly unsuitable for other faiths or S/R groups or individuals. This is a classic struggle between generalizability on one hand and comprehensive assessment on the other. Without instruments normed on large diverse samples there can be little confidence in any predictions made or conclusion drawn except within the demographic from which the instrument came from. Conversely if an instrument is too broad and abstract, it misses possibly valuable data.

David Moberg looked at the dilemmas faced in balancing universal and particular evaluative criteria (Moberg, 2002). He pointed out the concern that as the net is broadened to achieve a universal measurement of S/R, a great deal of rich material might

slip through the holes created. There is huge variation across different groups that fall under the umbrella of Christianity and the same is true across other broad band religious traditions. Moberg seems to lean toward a strategy of sacrificing some of the universality of the assessment of religiosity and spirituality in order to achieve greater detail and precision. The result is a pantheon of measures designed specifically for specific S/R approaches.

Other researchers such as Ho and Ho (2007) lean toward the universal approach. They propose that at a "high level of abstraction", S/R can be seen as concerning three main spheres. First they posit that S/R addresses existential and transcendent questions, such as purpose and mortality, as well as relationship to others and self. Second Ho and Ho (2007) posit that S/R speaks to the "cardinal values underlying all of life". Thirdly that it is "self-reflective, and hence meta-cognitive in nature" (Ho & Ho, 2007). Essentially Ho & Ho suggest that attention be given to underlying themes over specific content within S/R approaches. Although Ho & Ho offer what might be a feasible solution to the issue of generalizability across S/R approaches, the current state of the literature indicates that we may be a long way from achieving a satisfactory measure of S/R that is trans-cultural and trans-faith.

Benefits of spirituality/religiosity

Leaving for now the issues of conceptualization and measurement a large portion of the S/R literature has dealt with how it affects our health (Koenig & Larson, 2001, Larson & Larson, 2003, Rippentrop, Altmaier, Chen, Found, Keffala, 2005, Wachholtz, Pargament, 2005). In general, the presence of S/R has been associated with positive

outcomes including increased positive affect, higher health perceptions, and increased mental health status. However, the relationship of S/R to particular health outcomes is more complex. For example, in a study looking at a population of chronic pain patients, Rippentrop and colleagues found that "although religion/spirituality is related to physical and mental health, it has no direct relationship with pain levels" (Rippentrop, et. al 2005). Furthermore, this study indicated that when people experience their continued suffering as caused by God, S/R may lead to impaired emotional functioning. This suggests that S/R has positive effects when the individual's conceptualization of their faith is positive and deleterious when it is negative.

How religiosity/spiritually influences health outcomes is a logical next step. Four major pathways have been suggested as possible mechanisms for the effects of S/R on health outcomes (Oman & Thoresen, 2005). The first is through better health behaviors as a direct result of S/R sanctions against unhealthy habits such as heavy drinking, smoking, or unsafe sex. The second is via psychological states. In general, research has shown that high levels of psychological distress lead to poorer health outcomes. S/R may invoke more positive feelings of security, joy, or happiness, which in turn result in better psychological health. The third path is by giving adherents better coping skills. For instance, S/R people may be more inclined to take an active approach to problems in "collaboration" with the sacred. The fourth involves the communal aspect that is so often part of S/R involvement or belief (Oman & Thoresen, 2005). A fifth has also been purposed by some and involves the concept that health benefits may be bestowed by some invisible and unquantifiable and intangible force i.e "God".

Attachment theory and spirituality/religiosity

One psychological theory that may shed some light on the question of how S/R affects health outcomes is Attachment theory. First introduced by John Bowlby in 1969 attachment theory has established itself across many disciplines and offers a psychological, comprehensive, and explanatory vision of human relationships and development. From the window of evolutionary theory it is posited that attachment systems developed in primates through natural selection resulting in infant and adult primates maintaining proximity for an extended period of development. It is easy to see why this would be adaptive. Primate infants, and especially human infants, are tremendously dependant on caregivers for survival. Unlike other species, we come into the world utterly helpless with none of the physical dexterity, cognitive capacity, or complex instinctual structures many other species possess shortly after birth. Rather than rely on instinctive behavioral routines, humans have to learn to fend for ourselves, and this learning takes place over a lengthy period of physical growth and maturation. Thus, a system which induces caregiver and infant to remain in close physical proximity would greatly increase our otherwise non-existent chance of surviving to reproduce (Kirkpatrick, 2005). Furthermore, the behavioral expression of this adaptive system across individuals varies due to many factors, introducing the possibility for more adaptive and less adaptive behavioral phylogeny.

A full and exhaustive exposition of attachment theory is beyond the scope of this proposal but Fonagy (2001) offers an excellent summation of attachment theory, empirical findings, and implications of attachment theory. Briefly, in an ideal attachment

dyad, the caregiver would respond reliably and accurately engage in caretaking attachment behavioral patterns in response to infant attachment behavior patterns. For example, attending to and feeding in response to crying motivated by a biological need such as food. These attachment behaviors provide the developing offspring a relatively anxiety free environment from, and in, which to explore the world. Within this environment the infant operates with the knowledge that the caregiver is always a reliable, safe haven that is never too far away. This "secure base" has far reaching implications for later life. Simplistically speaking, a secure attachment early in life results in more effective and less anxiety provoking encounters with challenging or novel experiences and allows for the forming of meaningful secure attachments to others later in life (Fonagy, 2001).

Early work by Mary Ainsworth and colleagues using an experimental procedure dubbed the strange situation assessed how infants and their mothers interacted around; the mother leaving the child, the child interacting with strangers, the mother returning to the child, and the interactions between mother and child surrounding these events (Ainsworth, Blehar, Waters, & Wall, 1978). Ainsworth and her colleagues identified three main styles of attachment which are still the most widely used conceptualizations of attachment style. The first style is referred to as "secure attachment" in which the child is able to use the mother as a "secure base" for exploration, shows signs of missing the parent, greets the parent when they return, signals the parent when upset and once comforted, returns to exploration. The second style is referred to as "avoidant" and describes a situation in which the child explores actively but shows little use of the

parent as a secure base, does not indicate it misses the mother in her absence, looks away from the mother upon her return, and avoids contact with the parent. The third style is referred to as "ambivalent or resistant" and is characterized by visible distress upon entering the room, does not engage in exploration of the environment, is distressed when the mother leaves the room, often vacillates between seeking contact with and being rejecting of the parent upon her return, and fails to find comfort from the parent (Kirkpatrick, 2005).

Basic research has supported the general tenants of attachment theory in terms of self evaluations (Mikulencer, 1998, Park, Crocker & Mickelson, 2004), early relationships (Pfaller, Kiselica, & Gerstein, 1998, Edelstein, Alexander, Shaver, Schaaf, Quas, Lovas & Goodman, 2004), and to the inception and stability as well as coping after dissolution of romantic relationships (Feeney & Noller, 1990, Kirkpatrick & Davis, 1994, Birnbaum, Orr, Mikulincer & Florian, 1997, Tolmacz, 2004).

Recently the considerable explanatory power of attachment theory has been applied to the area of the study of S/R. There is significant literature examining S/R in light of attachment theory. In general, research has found that the way people experience attachment with their parent corresponds to the way they experience their relationship with "God" (Kirkpatrick, 2005, McDonald, Beck, Allison & Norsworthy, 2005). Those individuals who experienced their parents as available for and capable of providing security and support are more likely to experience "God" in the same way. The same holds true for both avoidant and anxious/ambivalent attachment styles as well. It is important to note that the participants for whom these data were collected were almost

exclusively Christian, a faith system which posits a "God" which is paternal and also personal. The attachment described here is to an idea of "God" as a being and not to an institution.

Object relations theory and spirituality/religiosity

Object relations theory has also produced hypothesis relating people's early experiences and their subsequent experiencing of God. Essentially object relations theory posits a set of internal objects which are created throughout development. As new relationships are encountered they are perceived partially through the lens of previous relationships. Mature object relations are characterized by an ability to experience others as an integrated whole. In other words the object, usually another person, is experienced as having both positive and negative attributes as opposed to being wholly good or wholly bad. In addition, the self is perceived as a whole containing both positive and negative attributes.

Research, again among mostly Christian participants, indicates a correlation between a positive warm and loving image of God and mature, integrated object relations development, whereas a harsher more punitive image of God is associated with less developed and integrated object relations (Rizutto, 1974, Birky & Ball, 1988, Brokaw & Edwards, 1994, Hall & Brokaw, 1995, Hall, Brokaw, Edwards, & Pike, 1998). Although uniformity in instruments across studies is lacking most correlations ranging from .24 to .71 for aspects of God image and object relations development (Brokaw & Edwards, 1994), and .59 to .70 for measures of spiritual maturity and level of object relations development (Hall & Brokaw, 1995). It may be S/R is a spandrel of the

more immediately adaptive psychological systems. It may also be that this spandrel has beneficial side effects of its own. Furthermore, we may be able to intentionally make use of these benefits. We now turn to one possible expression and application of those side effects.

Written emotional disclosure

Written Emotional Disclosure is a procedure developed by Pennebaker and colleagues (Pennebaker & Beall, 1986). This procedure generally involves writing about a traumatic experience over a 20 to 30 minute time period across several days and also usually includes a control group instructed to write about an emotionally neutral topic such as what they do in a typical day. A great deal of research has investigated the various components of written emotional disclosure and its effects. Most notable among these findings are positive health outcomes seen at 1 to 3 months after the procedure for individuals writing about an unpleasant and personally meaningful situation (Chung & Pennebaker, 2008; Hughes, Uhlmann, & Pennebaker, 1994; Epstein, Sloan, & Marx, 2005; Pennebaker & Beall, 1986; Norman, Lumley, Dooley, & Diamond, 2004; Pennebaker & Roberts, 1992; Pennebaker & Francis, 1996; Smyth, 1998; Pennebaker, Zech, & Rime, 2001; Sloan & Marks, 2004; Sloan, Marx, Epstein, & Lexington, 2007; Smyth, 1999; Smyth & Helm, 2003). These positive health outcomes include: reduced health care utilization, decreased disease severity in rheumatoid arthritis and asthma suffers, and improved immunological surveillance (Pennebaker & Beall, 1986; Smyth, Stone, Hurewitz, & Kaell, 1999; Spera, Buhrfeind,

& Pennebaker, 1994; Greenberg, Wortman, & Stone, 1996; Esterling, Antoni, Fletcher, Magulies, & Schneiderman 1994).

A meta-analysis conducted by Smyth found that the effect size for the written emotional disclosure paradigm is comparable to other interventions, with the largest effect sizes being seen on psychological health and physiological functioning (Smyth, 1998). The results provided further evidence supporting the relationship between participation in the writing exercise and overall health outcomes. Effect sizes ranged from .22 for psychological health and well being and physiological functioning to 2.06 for physiological functioning and general functioning with an average effect size of .47 across all studies and outcomes (Smyth, 1998).

Though many researchers have confirmed the effects of written emotional disclosure on health outcomes, relatively less work has focused on the underlying mechanism of these effects. In an extensive review Sloan and Marx narrow down the field of hypotheses to three main contenders (Sloan & Marx, 2004). The first hypothesis, which was originally proposed by Pennebaker in 1988, attributes the positive outcomes to the un-inhibiting of emotions. From this perspective, inhibition of negative emotions requires an investment of energy, which pulls resources from other functions such as immunity (Pennebaker & Susman, 1988). A second account posits that we have cognitive templates that help explain how the world works and that traumatic events create dissonance between the way we believe things will work and our actual experience. Furthermore, writing about these traumatic situations and our emotions results in a “cognitive adaption”, wherein our internal models are changed or

adapted to incorporate the incongruous experience (Sloan & Marx, 2004). A third account takes a learning theory perspective, which suggests that the writing process allows for exposure to the conditioned stimuli associated with the initial traumatic situation. By writing about the event, the participant's negative emotional associations, the conditioned response, is extinguished (Sloan & Marx, 2004)

The question of how written emotional disclosure produces its positive effects has recently been investigated empirically by Sloan and colleagues by grouping subjects into one of three conditions an emotionally expressive group, a cognitive adaptation group, and a control group. Data supported the emotional expressivity hypothesis in that these participants showed improved health outcomes at a one month follow up (Sloan, Marx, Epstein, & Lexington, 2007). Although further research is needed to clarify the underlying mechanisms of the written emotional disclosure paradigm, the current evidence indicates that emotional expressivity plays an essential role. Supporting this hypothesis Pennebaker and Roberts conducted a meta-analyses revealing larger effect sizes for men (Pennebaker & Roberts, 1992; Smyth, 1998). Furthermore, Pennebaker and colleagues found that people who scored high on a measure of hostility seemed to benefit more from the writing than those who scored lower and that, in general, people who do not naturally talk about their emotional state seem to benefit more than those who naturally do (Pennebaker, Zech, & Rime, 2001).

Recent work further supports this hypothesis that this effect may be a product of ambivalence toward, and avoidance of, emotional expressivity. A study of female chronic pain patients found that women who had a higher level of ambivalence toward

writing about their emotions surrounding their pain had a greater reduction in disability and lower pain at the two month follow up than those who had a lower baseline of ambivalence (Norman, Lumley, Dooley, & Diamond, 2004). Research with the written emotional disclosure procedure also indicates that individuals who are less likely to talk about traumatic or unpleasant events seem to benefit more from the experience (Pennebaker, Zech, & Rime, 2001).

Written emotional disclosure and spirituality/religiosity

Little work has been done to investigate the influence of S/R on the written emotional disclosure paradigm. Recent findings indicated that participants who framed their traumas while writing in a S/R context (i.e., employed S/R themes while writing about their trauma) reported a greater shift toward negative affect during the first writing session than those who did not. These individuals (12 out of 15) had spontaneously used a S/R context to write about their trauma without prompting. However, by the third session this trend had reversed for the S/R framers who reported an increase in positive affect during writing compared to the non-S/R framers who still reported an increase in negative affect (Exline, Smyth, Gregory, Hockemeyer, & Tulloch, 2005). Interestingly, the nature of the S/R references was important in that positive S/R references and specific behaviors such as prayer were associated with mood, whereas negative religious references were not.

In summary, there are sound arguments and research indicating that S/R may be a spandrel of other more immediately adaptive systems such as the attachment system. As discussed above, it would seem that in general S/R is related to more positive health

outcomes and overall psychological health when the perceived relationship to the sacred is positive. Given the similarities in person to person attachment style and person to the sacred attachment style that seems to be correlated with these positive health outcomes, it may be that attachment style or level of object relations development may moderate any beneficial health outcomes.

To date, little empirical work has been done to investigate how these benefits might be employed in treatment, or if psychological constructs, such as attachment style and object relations development, may serve as moderating variables for the health outcomes. Exline's results raise the possibility that employing an S/R framework in which to write about one's traumatic or negative life events might yield different health outcomes given the difference in valence ratings.

Given the work indicating that expressing negative emotions during writing may play a critical role in the benefits found with written emotional disclosure, it may be that individuals who use a S/R framework having different affective patterns may also have different health outcomes. In the Exline study, participants who used an S/R framework while writing reported more intense negative affect on day 1 of writing than non S/R framers. By the third day, these participants reported positive affect where as the non S/R framers still reported negative affect during writing. No health outcome data were reported for this study, leaving the question as to whether or not S/R framing during written emotional disclosure might affect health outcomes at one month follow-up.

In addition, given the research in attachment theory and evolutionary psychology, it may be that any effects bestowed by S/R may be more a product of

healthy attachment style and better developed object relations which correlate with a more positive felt relationship with God. Given the above discussion, we propose the following study to address these issues by testing the following hypotheses.

Hypotheses

H1). S/R framing will predict positive valence by day 3 of writing, and that secular framing will predict negative valence.

H2). S/R framing will predict greater positive effects at follow-up on measures of psychological and physical health than will non-S/R framing.

H3). Attachment style will serve as a moderator for the effect of S/R framing on valence at day 3 of writing- secure attachment predicting a stronger positive effect than insecure attachment.

H4). Attachment style will serve as a moderator for the effect of S/R framing on health outcomes at follow-up; secure attachment predicting a stronger positive effect on health than insecure attachment.

H5). Level of object relations development will serve as a moderator for the effect of S/R framing on valence at day 3 of writing- greater object relations development predicting a stronger positive effect on valence.

H6). Level of object relations development will serve as a moderator for the effect of S/R framing on health outcomes at follow-up; individuals with more advanced object relations development predicting a stronger positive effect on valence than individuals with less advanced object relations development.

2. METHODS

Participants

All participants were recruited using the Texas A&M introductory psychology subject pool. Two groups existed in this study, one was instructed to write about their negative life event using a S/R frame. A second group was instructed to write about their negative life event while actively refraining from using a religious frame (See Appendix B for instructions wording). Packets were organized in stacks alternating between the two topics, and participants picked up a form when they entered the room. Chance determined which set of instructions they picked up.

Measures

In the section that follows validity and reliability values are provided when available in the literature. Attachment style and history were assessed using Hazan & Shaver's Attachment Style Questionnaire. This questionnaire consists of four vignettes describing different ways of relating to other people in general and requires the participant to select from the four (Hazan & Shaver, 1987). It is important to note that this instrument gives us a description of a person's perceived attachment style in general with the people in their life and how comfortable or uncomfortable they are with the level of closeness and how secure the closeness is perceived to be.

Level of object relations development was assessed using the Ego Function Assessment Questionnaire- Revised (Hower, 1987) a 224 item self report questionnaire measuring 10 ego functions. Responses are made on a 6 point likert scale. In this study only the 42 questions pertaining to object relations development were used. Reliability

coefficients of .95 and correlation coefficients of .74 are reported for the object relations subscale. In addition it has "demonstrated adequate construct validity with significant correlations with MMPI scales ($p<.05$) and by significant discrimination among four diagnostic groups (psychotic, personality disorder, neurotic, and normal) ($p,< .001$)" (Bartolf, 1991).

As discussed above the distinction between religiosity and spirituality is problematic at best. One aspect of differentiation of interest, regardless of what definition it falls, into is how involvement in an organized faith tradition with a somewhat cohesive creed differs from a less institutionalized approach. Religiosity was assessed using the Religiousness Measure (Sethi & Seligman, 1993) which consists of 17 questions which cover three aspects of religiousness; religious influence in daily life, religious involvement, and religious hope. It was constructed using members of various organized religious groups which have fairly organized and static creeds and doctrines as subjects. Orthodox members of the Abrahamic faiths were used for the fundamentalist group, Conservative Judaism, Catholicism, Lutheranism, and Methodism made up the moderate group, while the liberal group consisted of Reformed Jews and Unitarians. All subjects ranged in age from 18 to 65 years old. No validity or reliability data were reported. This measure will assess specific behaviors related to faith such as praying, reading scripture, and attending services or other official religious activities in keeping with the definition of religiosity as discussed above.

Two instruments were used to assess S/R. Conceptually these instruments measured spiritual maturity and spiritual beliefs. The Index of Core Spiritual Beliefs

(Kass, Friedman, Lesserman, Zuttermeister & Benson, 1991) focuses on more concrete experiences of God beyond an amorphous belief. The measure's original purpose was to investigate any spiritual experiences first of all and secondly to investigate whether there are any relationships between these experiences and health outcomes. The measure was normed on 83 adult outpatients with various diagnoses. The sample was predominantly white female and educated beyond high school. It has acceptable reliability (Cronbach's alpha= .90) and reasonable correlation with other measures of religiousness. The highest correlation was with the Intrinsic scale of the Religious Orientation Measure r=.69, p<.0001 (Allport & Ross, 1967).

The Spiritual Assessment Inventory (Hall & Edwards, 1996) measures an individual's spiritual development or spiritual maturity from both an objects relations and a contemplative spirituality perspective. It is based on two factors a) the equality of one's relationship with God and b) the degree of an individual's awareness of God in his or her life. Four factors (awareness, instability, defensiveness/disappointment, grandiosity). Satisfactory reliability was reported with Cronbach alpha values ranging from .52 to .91. The scale correlated acceptably with the Bell Object Relations Inventory (Bell, 1991). This instrument coincides most closely with spirituality as discussed above as it deals with the broader issues of a concern or search for the sacred and did not necessarily involve association with organized

God Image was assessed using the Gorsuch Adjective Check List (Gorsuch, 1968) which is a list of 91 adjectives meant to tap into 8 dimensions of participants' image of God; Benevolency, Wrathfulness, Deisticness, Eternality, Omniness,

Irrelevancy, Sovereignty, and Potency. Respondents select from a three point likert scale. Reliability coefficients were available for four of the eight dimensions ranging from .49 (Irrelevance) to .89 (wrathfulness). As of yet no validity studies have been conducted. Be that as it may it is still the most widely used measure of God concept.

Mysticism and mystical experiences were assessed using the Mysticism Scale: Research Form D (M Scale) (Hood, 1975) a questionnaire of 32 items grouped along 8 concepts Ego Quality (loss of self), Unifying quality (perceptions of oneness), Inner Subjective quality (perception of all objects as animate), Temporal/ Spatial quality (distortion of time and space), Noetic quality (perceptions of special knowledge or insight), Ineffability (difficulty with articulation), Positive Affect (experience of peace or bliss), Religious quality (perceptions of sacredness). Reliability for the full scale is acceptable ranging from .69 to .76 for Hood's original sample and validity is well established. Since its creation conflicting results have been found regarding the utility and validity of the subscales and so for the purposes of this study the subscale scores were not used.

To determine the effects of religiosity and spirituality through written emotional disclosure, it was necessary to assess any preexisting emotional distress that may contribute to unwanted group differences. To do so, the Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977), a brief, 20-item questionnaire yielding a dimensional score that taps into depression and anxiety symptoms was filled out prior to the experiment. Higher scores indicate more symptoms of depression and

anxiety Participants were instructed to read each item and rate the extent to which they felt that way at some point during the past week.

To assess the emotional impact of the writing paradigm, participants filled out several questionnaires during and at the end of the experiment. The Self-Assessment Manikin (SAM; Lang, 1980) is a measure with three pictogram scales indicating various levels of valence (ranging from “happy” to “unhappy”), arousal (ranging from “excited” to “calm”), and dominance (ranging from non-dominant to very dominant). Participants were asked to place an “X” on or between any of the figures on the valance scale to indicate their emotional experience of the treatment condition. In addition the Positive and Negative Affect Schedule-Expanded Form PANAS-X was used (Watson & Clark, 1994). This measure allows for reporting of the extent to which participants experience a list of adjectives describing positive and negative emotions. This yields a rating of both positive affect and negative affect.

To assess general health an adaption of the general health status questionnaire was used (Goldberg, David P., & Hillier, V.F., 1979). This instrument is used to assess several aspects of health including; overall perception of health, whether or not any life interfering health problems occurred, how frequently they occurred, the occurrence of general symptoms, how frequently these symptoms occurred, and how severe they were. Table 1 shows the abbreviation used in the text to represent each of these measures.

Table 1.
Abbreviations for measures used in the text

Measure Abbreviation	Measure
RM	Religiousness Measure
SAIA	Spiritual Assessment Inventory-Awareness
SAII	Spiritual Assessment Inventory-Instability
SAID	Spiritual Assessment Inventory-Defensiveness
SAIG	Spiritual Assessment Inventory-Grandiosity
ICSE	Index of Core Spiritual Experiences
ME	Mystical Experiences
OR	Object Relations
ATT	Attachment (secure vs. nonsecure)
GITD	God Image-Traditional Christian
GID	God Image- Deistic
GIW	God Image-Wrathful
GIO	God Image-Omniness
GII	God Image-Irrelevancy
PANASMPA	PANAS for the past month-positive affect
PANASMNA	PANAS for the past month-negative affect
PANASNPA	PANAS now-positive affect
PANASNNA	PANAS now-negative affect
CESD	Center for Epidemeological Studies-Depression
GHQO	General Health Status Questionnaire overall health rating
GHQLOCC	General Health Status Questionnaire-Life interfering health related occurances
GHQLFRQ	General Health Status Questionnaire Life interfering health related occurances frequency
GHQSOCC	General Health Status Questionnaire symptom occurance
GHQSFRQ	General Health Status Questionnaire symptom frequency
GHQSSEV	General Health Status Questionnaire symptom severity

Procedure

Figures 1, 2, and 3 depict the timeline for the experiment. Participants were brought into a large lecture hall and instructed to take the questionnaire and writing topic packets which had been stacked in alternately according to writing instructions (see Appendix B for exact wording of instructions). They were then asked to sit with at least one space between them. The first page of the packet was an information sheet approved by the local IRB. Participants were then verbally walked through the information sheet and instructed to tear it off and keep it.

Following being informed about the study, participants were asked to multiply the last 4 digits of their student identification number (UIN) by 3 and to write that number at the top of the first page of their questionnaire packet and to remember it so they could use it as an ID number for all 4 days of the study. This was done to allow for complete anonymity of responses and for the matching of data across days of the study.

Next general instructions about filling out the SAM forms were given. Following this, participants were instructed to fill out the survey questionnaire then pause until everyone was finished before continuing to the writing phase of the study. When the participants had all completed their packets they were asked to fill out SAM 1 and then turn the page to view their topic and begin writing. After 10 minutes into the writing manipulation, the participants were asked to fill out a SAM form and then return to writing. At the end of 20 minutes of writing, the participants were again asked to stop writing and fill out another SAM form. This procedure was followed for days two and

three. At one month (30 days) after day 3 participants returned to fill out follow-up questionnaires.

5 minutes	45 minute	10 minutes	30 seconds	10 minutes	30 seconds
Informed Consent	Instructions Pre-writing questionnaires Pre-writing valence rating	Writing	Mid-writing valence rating	Writing	Post-writing valence rating

Figure 1. Timeline day 1. On the first day of the study participants were informed of what the study consisted of and filled out the questionnaires listed above. After all of the participants had finished they were instructed on the writing procedure and how to fill out the SAM rating forms. They were then asked to fill out the first SAM valence rating, turn to their topic page, read it, and begin writing. After 10 minutes of writing participants were asked to fill out another SAM valence rating and begin writing again. After another 10 minutes of writing they were again asked to fill out SAM valence rating form. They were then instructed to leave their information in their chairs and dismissed with instructions to return the next night.

30 seconds	10 minutes	30 seconds	10 minutes	30 seconds
Pre-writing valence writing	Writing	Mid-writing valence rating	Writing	Post-writing valence rating

Figure 2. Timeline day 2. On the second day of writing participants were instructed to continue writing following the same instructions as they had for day1. They were then asked to fill out the first SAM valence rating, turn to their topic page, read it, and begin writing. After 10 minutes of writing participants were asked to fill out another SAM valence rating and begin writing again. After another 10 minutes of writing they were again asked to fill out SAM valence rating form. They were then instructed to leave their information in their chairs and dismissed with instructions to return the next night.

30 seconds	10 minutes	30 seconds	10 minutes	30 seconds	30 days later 15 minutes
Pre-writing valence rating	Writing	Mid-writing valence rating	Writing	Post-writing valence rating	Post-test health questionnaire

Figure 3. Timeline day 3 and follow-up. On the third day of writing participants were instructed to continue writing following the same instructions as they had for day1 and day 2. They were then asked to fill out the first SAM valence rating, turn to their topic page, read it, and begin writing. After 10 minutes of writing participants were asked to fill out another SAM valence rating and begin writing again. After another 10 minutes of writing they were again asked to fill out SAM valence rating form. They were then instructed to leave their information in their chairs and dismissed with instructions to return the next night.

Thirty days after day 3 of writing participants returned to fill out a follow-up questionnaire consisting of the health and psychological functioning questionnaires they had filled out on day 1.

3. RESULTS

To detect a small effect size of at least .10 while maintaining an acceptable power level of .80 it was necessary to recruit at least 190 participants, given that in all we had 13 predictors in a linear regression model when examining effects at the subscale level of the instruments used. We were successful in collecting useable data from 193 participants. This was a conservative estimation of effect size as the Exline and colleagues paper did not provide effect sizes or means and standard deviations for the two groups so that effect sizes could be calculated. To detect a medium effect size of .25 for our Analysis of variance while maintaining an acceptable power level of .80 it was necessary to recruit 128 participants. Participant characteristics are summarized in Tables 2 and 3.

Table 2.

Descriptives for age and education

	M	*Mdn*	Mode	*SD*	Variance	*Min*	*Max*	Range
Age	18.57	18.00	18.00	1.073	1.15	17.00	28.00	11.00
Education	13.05	13.00	13.00	1.275	1.63	.00	16.00	16.00

Table 3.

Frequencies and percentages for gender, faith, and ethnicity

	Frequency	Percentage
Female	71	36.8
Male	121	62.7
Caucasian	131	67.9
African American	2	1.0
Latin	38	19.7
Asian	10	5.2
Other Ethnicity	9	4.7
No Faith	27	14.0
Christian	99	51.3
Islamic	3	1.6
Buddhism	1	.5
Other	63	32.6

Table 4 indicates the distribution of attachment style by gender.

Table 4.

Frequencies and percentages for gender and attachment style

	Frequency	Percentage
Secure Attachment Female	39	54.2
Insecure Attachment Female	33	45.8
Secure Attachment Male	87	71.9
Insecure Attachment Male	34	28.1

Tables 5, 6, and 7 show Pearson r correlation values among measures. Table 5 depicts correlations between independent variables.

Table 5.

Correlations among independent variables

	RM	SAIA	SAII	SAID	SAIG	ICSE	ME	OR	GITD	GID	GIW	GIO	GII
RM	1												
SAIA	.80**	1											
SAII	-.16*	-.23**	1										
SAID	.27**	.32**	.32**	1									
SAIG	.39	.49**	.14	.32**	1								
ICSE	.67**	.77**	-.14*	.31**	.45**	1							
ME	-.05	.00	.01	.04	.05	-.05*	1						
OR	-.18*	-.16*	-.41**	.13	-.02	-.22**	.06	1					
GITD	.46**	.48**	.05	.23**	.32**	.42*	.00	-.03	1				
GID	.34**	.34**	.06	.17*	.21**	.32**	.08	-.02	.79**	1			
GIW	.46**	.45**	.02	.22**	.26**	.41**	-.05	-.07	.92**	.76**	1		
GIO	.45**	.46**	-.01	.21**	.31**	.36**	-.02	-.11	.89**	.71**	.85**	1	
GII	-.00	-.01	.20**	.10	.13	-.03	.01	-.08	.46**	.47**	.41**	.31**	1

Note *p<.05, **p<.001

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy.

Table 6.

Correlations among independent and dependent variables

	PM2PA	PM2NA	PN2PA	PN2NA	CESD	GHQO2	GHQLO2	GHQLF2	GHQSO2	GHQSF2	GHQSS2
RM	.04	.04	.20	.05	.01	.02	.02	.12	-.01	-.06	-.02
SAIA	.13	-.04	.26**	.02	-.01	.05	.06	.08	.05	.06	-.01
SAII	-.09	.31**	.08	.18*	.22**	-.03	-.04	-.01	.04	.12	.08
SAID	.08	-.04	.17	-.01	-.05	-.05	.04	.12	.04	.03	.06
SAIG	.01	.13	.11	.09	.11	-.03	-.01	-.03	-.02	.02	-.06
ICSE	.04	-.01	.21**	-.03	-.02	.03	.06	.07	.06	-.13	.04
ME	.15*	.04	.15*	.07	-.09	.07	.10	.03	.05	-.01	.00
OR	.13	-.28**	.04	-.22*	-.27**	.09	-.18*	-.09	-.22**	-.20**	-.15*
GITD	.035	.082	.11	-.02	-.02	.12	-.03	-.04	-.16*	-.17*	-.10
GID	.12	.06	.21**	.01	-.07	.09	-.07	-.14*	-.19**	-.21**	-.12
GIW	.04	.06	.10	-.01	-.07	.16*	-.09	-.06	-.17*	-.19**	-.10
GIO	.05	.06	.14	-.02	-.00	.09	.01	-.00	-.10	-.138	-.074
GII	.03	-.04	.05	.00	-.02	.05	-.02	-.02	-.06	-.02	.01

Note *p<.05, Note **p<.001

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy, PM2PA=PANAS2 month prior positive affect, PM2NA=PANAS2 month prior negative affect, PN2PA=PANAS2 now positive affect, PN2NA=PANAS2 now negative affect, CESD=Center for epidemiological studies depression scale, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

Table 7.

Correlations among dependent variables

	PM2PA	PM2NA	PN2PA	PN2NA	CESD2	GHQO2	GHQLO2	GHQLF2	GHQSO2	GHQSF2	GHQSS2
PM2PA	1										
PM2NA	-.12	1									
PN2PA	.54**	-.05	1								
PN2NA	-.13	.57**	.09	1							
CESD2	-.42**	.60**	-.17*	.52**	1						
GHQO2	.49**	.03	.31**	-.06	-.18	1					
GHQLO2	-.07	.04	-.05	.03	.04	-.37**	1				
GHQLF2	-.12	-.03	.08	-.08	-.08	-.25**	.52**	1			
GHQSO2	-.05	.12	-.06	.07	.17*	-.25**	.31**	.17*	1		
GHQSF2	-.08	.07	-.06	.05	.14	-.32**	.31**	.30*	.44**	1	
GHQSS2	-.01	.04	-.03	.03	.13	-.29**	.27**	.13	.70**	.35**	1

Note *p<.05

Note **p<.001

Note; PM2PA=PANAS2 month prior positive affect, PM2NA=PANAS2 month prior negative affect, PN2PA=PANAS2 now positive affect, PN2NA=PANAS2 now negative affect, CESD=Center for epidemiological studies depression scale, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

Reliability of measures

Table 8 depicts the reliability coefficients for the measures used in this study as well as the reported reliability coefficients for these measures.

Table 8.
Reliability Coeffcients and Reported Reliability Coefficients

	Cronbach's Alpha	N	Reported Cronbach's Alpha
RM	.87*	15	.90
SAIA	.93*	10	.52-.91
SAII	.83*	11	.52-.91
SAID	.87*	8	.52-.91
SAIG	.48	5	.52-.91
ICSE	.82*	19	.69
ME	.88*	32	.69-.76
OR	.61	42	.95
GITRD	.95*	50	.49-.89
GID	.63	5	.49-.89
GIW	.84*	13	.49-.89
GIO	.76	4	.49-.89
GII	.36	4	.49-.89

Table 8 Continued.

	Cronbach's Alpha	N	Reported Cronbach's Alpha
PANASN	.93*	40	.85
PANASP	.93*	36	.88
SAMV	.76	9	.63-.93
SAMA	.83*	9	.92-.98
CESD	.92*	40	.84-.90
GHQO	.83*	10	NA
GHQLO	.65	14	NA
GHQLF	.38	14	NA
GHQSO	.69	16	NA
GHQSF	.59	16	NA
GHQSS	.59	16	NA

Note. NA=Reliability coefficients were not available.

Note. *=acceptable reliability.

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy, PANASP=PANAS positive affect, PANASN=PANAS negative affect, SAMV=Self assessment mannequin valence, SAMA= Self assessment mannequin arousal, CESD=Center for epidemiological studies depression scale, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurrence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

Manipulation checks

Significant changes at follow-up from baseline for health outcomes are represented in Table 9. Measures of general health and psychological functioning were taken before and one month after the writing intervention. In prior studies using written emotional disclosure positive changes in measures of general health and psychological distress have been found. Consistent with previous research a paired samples t test, while controlling for baseline scores, showed a significant improvement from the initial

values on the first day of the study to follow up 30 days after the last day of writing. This significant effect was seen for all outcome variables accept for CESD and GHQO. However as seen in Table 8 only GHQO from the health scales had acceptable reliability. Because of the low reliability values for the health measures in this study it is possible to only have confidence in the significant results for the measures of psychological functioning. There was a reduction of current negative affect and negative affect for the month prior (PANASNNA and PANASMNA), as well as an increase in current positive affect (PANASNPA). Finally there was a reduction in symptoms of anxiety and depression as measured by the CES-D.

Table 9.
Results of dependent samples t-tests for health outcomes

	Time 1		Time 2			
	M	*SD*	*M*	*SD*	*t*	*d*
PANASMPA	29.72	6.12	27.42	7.12	4.79**	.35
PANASMNA	19.88	7.79	16.04	6.93	8.02**	.52
PANASNPA	20.65	9.84	22.66	8.99	5.24**	.63
PANASNNA	10.67	8.78	7.71	7.12	-7.92**	.37
CESD	18.27	10.13	17.37	10.55	1.17	NA
GHQO	24.53	5.18	24.36	5.87	-23.92	NA
GHQLO	2.11	1.45	1.81	1.52	.41**	.20
GHQLF	10.61	14.04	8.08	11.14	3.313*	.20
GHQSO	2.89	1.65	2.17	1.54	2.44**	.45
GHQSF	14.64	16.68	10.43	14.37	6.88**	.27
GHQSS	16.25	13.88	12.03	12.64	3.97**	.32

Note. *p<.05, **p< .001

Note; PANASMPA=PANAS month prior positive affect, PANASMNA=PANAS month prior negative affect, PANASNPA=PANAS now positive affect, PANASNNA=PANAS now negative affect, CESD=Center for epidemiological studies depression scale, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurrence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

All significant changes in valence from pre and post-writing are represented in Table 10. Consistent with previous research, a paired samples t-test showed a significant difference from pre and post writing valence ratings on all three days of writing. Pre-writing ratings were of positive valence and post -writing ratings were of negative valence. On all three days participants reported an unpleasant experience immediately after writing about their negative life event. This is in keeping with other studies using the Pennebaker paradigm.

Table 10.

Results of dependent samples t-tests for valence ratings

	SAM pre-writing		SAM post-writing			
	M	*SD*	*M*	*SD*	*t*	*d*
Day 1	.8385	1.71228	-1.3684	2.08320	13.32**	1.16
Day 2	1.3834	1.88142	-.7053	2.20569	10.67**	1.01
Day 3	1.4508	1.75562	-.2073	2.14781	9.76**	.84

Note. **p< .001

Hypothesis related results

Hypothesis 1 predicted that S/R framing would predict positive valence by day 3 of writing. Figures 4, 5, and 6 depict differences by framing instructions for SAM ratings at pre and post writing across day. Scores on the SAM range from 1-9. In figures 4, 5, and 6 the results have been adjusted for visual simplicity using 5 as a neutral score, scores less than 5 which indicate unpleasant valence are depicted as

below the horizontal axis (negative values). Scores above 5 which indicate pleasant valence are depicted above the horizontal axis (positive values). A one way ANOVA showed that SAM ratings of valence differed by topic only on day 2 during writing, $F(1,188)=3.94$, $p<.05$. Contrary to Hypothesis 1, SAM ratings did not differ significantly by topic for Day 3 post-writing. Hypothesis 1 was not supported.

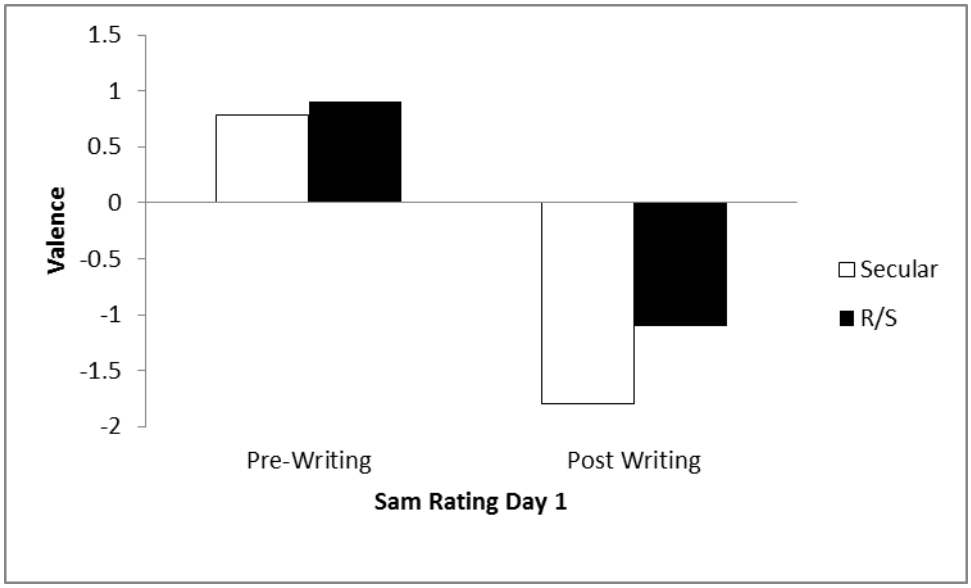

Figure 4. SAM valence ratings by topic for day 1. Scores on the SAM range from 1-9. In this graph the results have been adjusted for visual simplicity using 5 as a neutral score. Scores less than 5 which indicate unpleasant valence are depicted as below the horizontal axis. Scores above 5 which indicate pleasant valence are depicted above the horizontal axis.

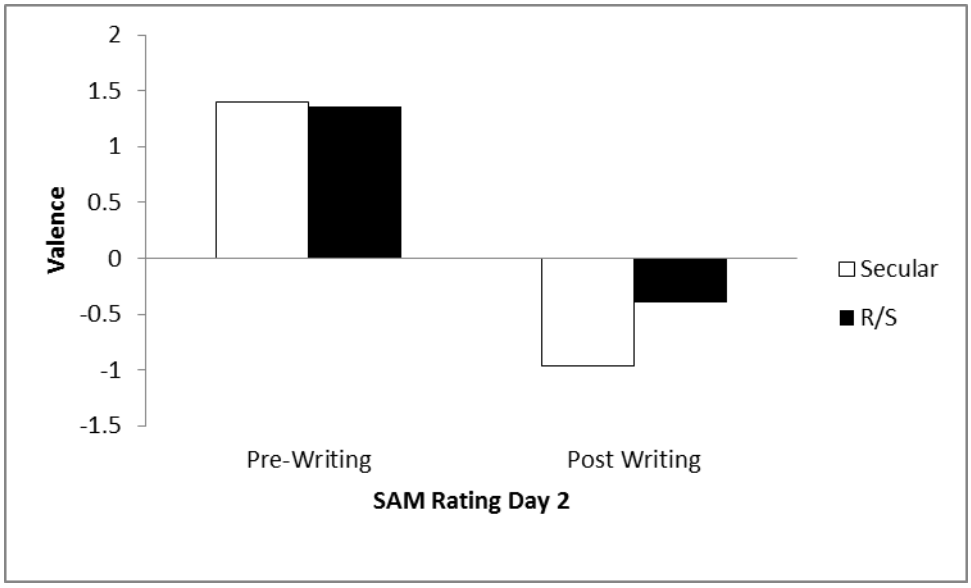

Figure 5. SAM valence ratings by topic for day 2. Scores on the SAM range from 1-9. In this graph the results have been adjusted for visual simplicity using 5 as a neutral score. Scores less than 5 which indicate unpleasant valence are depicted as below the horizontal axis. Scores above 5 which indicate pleasant valence are depicted above the horizontal axis.

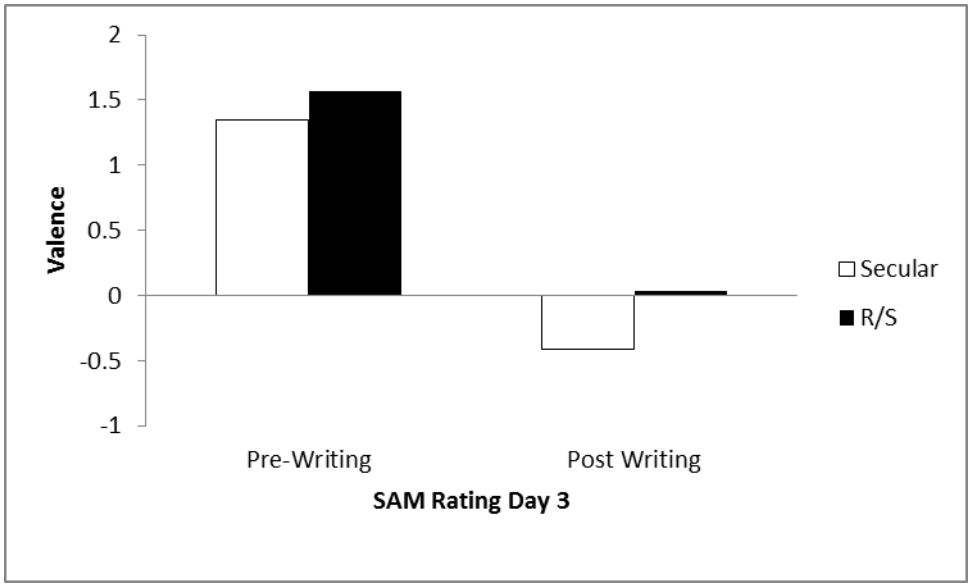

Figure 6. SAM valence ratings by topic for day 3. Scores on the SAM range from 1-9. In this graph the results have been adjusted for visual simplicity using 5 as a neutral score. Scores less than 5 which indicate unpleasant valence are depicted as below the horizontal axis. Scores above 5 which indicate pleasant valence are depicted above the horizontal axis.

Hypothesis 2 stated that S/R framing would result in greater positive effects on measures of psychological and physical health at follow-up. Controlling for variation at baseline one way ANOVAs showed no significant differences, as shown in Table 11, in follow-up data by topic. Hypothesis 2 was not supported.

Table 11.

One way ANOVA of outcome variables via writing instructions

	Source	*SS*	*df*	*MS*	*F*	*p*
SAMV33	Between Groups	9.71	1	9.71	2.10	.148
	Within Groups	875.94	190	4.61		
	Total	885.66	191			
PANASMPA	Between Groups	47.77	1	47.77	1.00	.317
	Within Groups	8905.89	188	47.37		
	Total	8953.66	189			
PANASMNA	Between Groups	87.61	1	87.61	1.90	.170
	Within Groups	8618.95	187	46.09		
	Total	8706.57	188			
PANASNPA	Between Groups	150.81	1	150.81	1.78	.183
	Within Groups	15888.18	188	84.51		
	Total	16038.99	189			
PANASNNA	Between Groups	39.16	1	39.16	.49	.481
	Within Groups	14917.57	190	78.51		
	Total	14956.74	191			
CESD	Between Groups	21.67	1	21.67	.20	.648
	Within Groups	17938.23	173	103.68		
	Total	17959.90	174			
GHQO	Between Groups	71.39	1	71.39	2.99	.085
	Within Groups	4533.08	190	23.85		
	Total	4604.47	191			
GHQLO	Between Groups	2.19	1	2.19	.82	.366
	Within Groups	507.50	190	2.67		
	Total	509.70	191			
GHQLF	Between Groups	52.23	1	52.23	.24	.619
	Within Groups	39897.63	190	209.98		
	Total	39949.87	191			
GHQSO	Between Groups	1.35	1	1.35	.62	.429
	Within Groups	409.46	190	2.15		
	Total	410.81	191			
GHQSF	Between Groups	5.59	1	5.59	.02	.873
	Within Groups	41595.43	190	218.92		
	Total	41601.03	191			
GHQSS	Between Groups	68.89	1	68.89	.32	.567
	Within Groups	39900.51	190	210.00		
	Total	39969.40	191			

Note; SAMV33=Self assessment mannequin valence rating for the final rating on day 3 of writing, PANASMPA=PANAS month prior positive affect, PANASMNA=PANAS month prior negative affect, PANASNPA=PANAS now positive affect, PANASNNA=PANAS now negative affect, CESD=Center for epidemiological studies depression scale, GHQO=General health questionnaire overall , GHQLO=General health questionnaire life occurrence, GHQLFQ=General health questionnaire life frequency, GHQSO= General health questionnaire symptom occurrence, GHQSF=General health questionnaire symptom frequency, GHQSS=General health questionnaire symptom severity.

Hypothesis 3 stated that attachment style (secure vs. non- secure) would serve as a moderator for the relationship between topic instructions and health outcomes at

follow-up with securely attached S/R writers experiencing greater positive changes. In order for Hypothesis 3 to be supported, R^2 needed to change significantly when the interaction term between topic and attachment style was added to the equation. This was not true for any of the outcome variables. The change in R^2 for the interaction term between topic and attachment style must also have been significant in order to retain Hypothesis 4 which stated that attachment style would also serve as a moderator for the relationship between topic and Affect Rating at day 3 post writing SAM rating of valence. Attachment style did not interact with topic to predict post writing SAM ratings of valence on day 3. Hypothesis 3 and 4 were not supported. No main effects of attachment style were found.

Hypothesis 5 stated that level of object relations development would serve as a moderator for the relationship between topic instructions and health outcomes at follow up with securely attached S/R writers experiencing greater positive changes. In order for Hypothesis 5 to be supported, R^2 needed to change significantly when the interaction term between topic and object relations was added to the equation. The change in R^2 for the interaction term between topic and attachment style must also have been significant in order to retain Hypothesis 6-which stated that object relations development would also serve as a moderator for the relationship between topic and Affect Rating at day 3 post writing SAM rating of valence object relations development did not interact with topic to predict post writing SAM ratings of valence on day 3. Hypothesis 5 and 6 were not supported.

Post hoc analysis

A MANOVA was used to test for significant differences between SAM ratings for writing days 1, 2, and 3at pre writing, during writing, and post writing. No significant differences were found. As the ANOVA had already shown no significant change on any day between time pre and post writing this means that additionally there was no significant change between pre and during writing ratings or between during writing and post writing ratings.

Linear regression was used to assess for impact of independent variable measures in the initial questionnaire packet on dependent health and psychological outcome measures at follow-up. Several variables proved to be significant predictors for some of the changes in dependent measures. Table 12 shows the health outcome measures and the significant predictor variables for each.

Table 12.
Beta values for significant predictors of health outcomes

	GHQ LOCC	GHQ LFRQ	GHQ SOCC	GHQ SFRQ	GHQ SSEV
RM					
SAIA					
SAII					
SAID					
SAIG		-.69			
ICSE					
ME					
OR	-.33*		-.02		
GITRD					
GID		.28			
GIW					
GIO					
GII					

Note. *p< .001

Note. The vertical axis lists the predictor variables and the horizontal axis lists the health outcomes.

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

Table 13 shows the psychological outcome measures and the significant predictors.

Table 13.
Beta values for significant predictors of affect

	PANAS MPA	PANAS MNA	PANAS NPA	PANAS NNA	CESD
RM					
SAIA					
SAII				.25	
SAID					
SAIG					
ICSE					
ME				.17	
OR					
GITRD					
GID					
GIW					
GIO				1.13	
GII					

Note. *p< .001

Note. The vertical axis lists the predictor variables and the horizontal axis lists psychological outcomes.

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy, PM2PA=PANAS2 month prior positive affect, PM2NA=PANAS2 month prior negative affect, PN2PA=PANAS2 now positive affect, PN2NA=PANAS2 now negative affect, CESD=Center for epidemiological studies depression scale.

Post Hoc analysis for moderator effects of predictor variables on topic instructions yielded one significant moderator effect. SAII served as a moderator of GHQO via writing instructions. Table 14 shows the values and Figure 7 represents the effect.

Table 14.
SAII as moderator of GHQO via writing instructions

	B	*SE B*	**β**	R^2	$_{\Delta R}$**2**	*d*
GHQO					.03	.33
Step 1				.01		
Topic	-.961	.851	-.082			
SAII	-.028	.051	-.039			
Step 2				.03		
Topic	-.973	.842	-.083			
SAII	-.023	.051	-.033			
Topic X SAII	.229	.103	.160			

Note; GHQO=General health questionnaire overall, SAII=Spiritual assessment inventory instability.

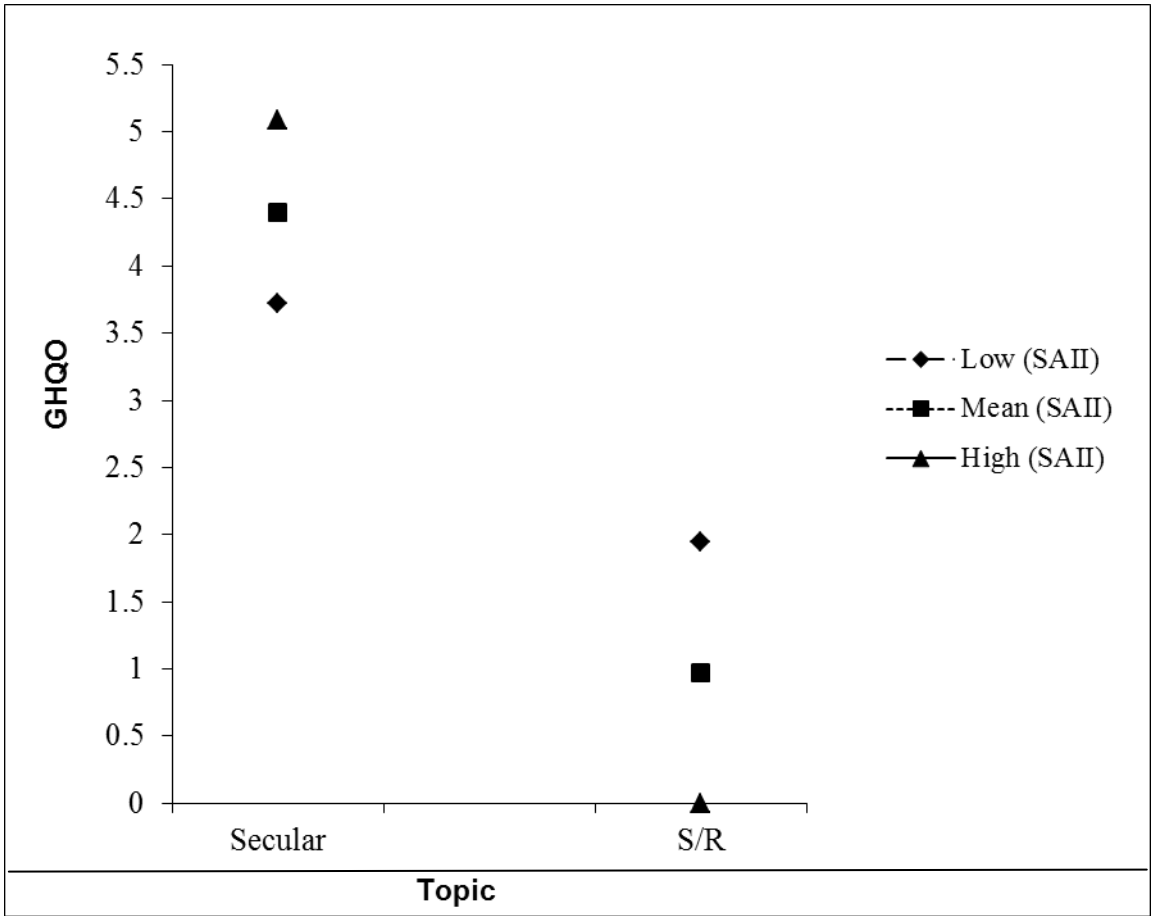

Figure 7. Moderator effect of SAII on GHQO via writing instructions. For individuals who were asked to write using an S/R framework the perception of overall health was the lowest for those individuals who reported the highest instability in the way they viewed their relationship with "God". Conversely those who reported the lowest instability in the way they viewed their relationship with "God" had the highest reported overall health.

4. DISCUSSION AND CONCLUSIONS

The first purpose of this study was to examine the possible effects of applying an intervention aimed at making use of the reported health benefits of S/R. To do this, a well-established and easily delivered intervention, the Pennebaker Written Emotional Disclosure paradigm was used. A second goal was to investigate the possible moderating effects on health outcomes of attachment style and level of object relations development on the perceived relationship and conceptualization of the sacred for persons who are S/R inclined. This study found no support for a reliable effect of any of the manipulated variables.

Demographics, validity, reliability, and manipulation checks

The participants in this study were over 60% male and Caucasian and just over 50% Christian. The second most common descriptor pertaining to S/R was "other" at 32.6%. "Other" for this study was not further defined by the participants and would not include those of "no faith", "Buddhism", or "Islamic". In future studies it will be important to have more precise data in regards to how individuals define their approach to S/R. The best approach may be an open ended question as opposed to a forced response.

Furthermore our sample's average age was 18.5 years, they were freshmen in college, and had a range in age of 17 to 28 years old. All of them were psychology majors who were seeking credit for their introductory psychology course. Given these demographics any conclusion we might reach are likely limited in terms of their generalizability. Greater validity could be gained by attaining a sample from a broader swath of S/R, racial, cultural, and life experience.

In this study the Pennebaker effects on measures of physical and psychological health were not reliably recreated. Of the 5 indicators of psychological functioning we found an improvement in 3 (PANASMNA, PANASNPA, PANASNNA). Positive affect for the month previous decreased from baseline by 30 day follow-up. Symptomology of anxiety and depression tapped by the CES-D (Radloff, 1979) decreased but not by a significant amount. In regards to reliability a coefficient of .5 or lower is generally considered to be poor and .8 or higher is considered to be acceptable (George & Mallery, 2003). Unfortunately in our sample of participants only one of the subscales for health outcomes (GHQO) had a reliability coefficient high enough to lend firm confidence to the results. Furthermore this was the one subscale which did not indicate a significant improvement from baseline. The other measures for health outcomes, with the exception of GHQLF, had only moderate reliability values ranging from .59-.69.

Considering the mixed results concerning reliability of our measures with this sample it is difficult to have confidence in the reproduction of the Pennebaker effects. This could be a result poor choice of measurement instruments or a homogenous relatively healthy sample, un-afflicted by damaging trauma or negative life events or some combination of these and other unforeseen factors. The limitations and future directions for this line of inquiry are expanded upon as results are discussed further.

Effects of spiritual and religious framing

Given Exline's results on affect reporting for S/R framers, it was predicted that S/R framing would predict reporting of positive valence after writing on day 3. Though Figure 6 shows that although S/R framing did result in reporting of positive valence, it was not to a degree as to be significantly different from zero or from the secular writers

who were reporting negative valence. Looking at figures 4 and 5, some indication of a move toward less negative valence can be seen by the post writing SAM valence rating on day 2, and Figure 6 shows the move (though not significant) into positive valence.

The second hypothesis stated that S/R framing would have an enhancing effect on the positive health outcomes generally seen using written emotional disclosure. No main effects for framing instructions were seen. This study also failed to find sufficient evidence to support the remaining hypothesis that attachment style or level of object relations development, moderate a relationship between writing instructions and health outcomes.

Major limitations

When faced with so many negative findings the major question to address is why this might be. The simple answer is that there is legitimately no effect to be found. However, it is important to consider failings in the design or execution of the study itself before completely turning from the possibility of effects.

The major limitation this study faced and a possibly a large contributor to the direction of the findings was that of measurement issues. It is possible that the instruments used to measure independent variables did not adequately tap into the constructs we wished to measure. The measures used for religiosity and spirituality did not allow for a precise differentiation between the two approaches to the sacred as understood by Zinnbauer (Zinnbauer, et.al, 1997). Although the measures for "religiosity" and spirituality were geared toward different concept there is within the wording of questions ample room for shared variance as can be seen by looking at the correlations between the three measures in Table 5. It may also be that, independent of

the difference between religiosity and spirituality, aspects of S/R that could impact the dependent variables we were interested were not tapped by any of the instruments.

As mentioned above the issue of construct definition and operationalization is a large one within the study of S/R. Even at the most basic level there is still no consensus on how best to conceptualize S/R or within the proposed conceptualizations what aspects are important. It may be that a framework found in other disciplines of psychology such as the one used for the study of psychopathology (explaining phenomena in terms of behavior, physiology, cognition, and affect) could be useful. Until this most basic of questions is settled a concerted and coherent approach to understanding S/R and conducting quantitative, valid, and reliable research will be, at best, difficult.

In regards to measures for attachment style and object relations. Other instruments which might have been more useful, for instance allowing a dimensional approach to attachment, were mostly too cumbersome for easy use or were beyond the resources of this study. There is some reason to not doubt the measurement of attachment. The p-values for the tests of both main and moderator effects of attachment style on the dependent variables were very high. The measure of object relations development had moderate reliability for this sample however other instruments were not available.

Perhaps the weakest and most concerning limitation in regards to measurement was the adaptation of the General Health Status Questionnaire. For our sample the reliability values were almost exclusively moderately acceptable. In future studies, given adequate resources, more psychometrically sound instruments would be preferable as well as other indicators of health outcomes which are independent of self-report.

Turning from the problems of measurement, another issue that must be addressed are the differences between the current study and the Exline study. The first major difference concerns the participant samples. Exline's small group of writers all met criteria for Post-Traumatic Stress Disorder (PTSD) (Exline, Smyth, Gregory, Hockemeyer, & Tulloch, 2005). Our study used a sample of psychology undergraduate students who ranged in age from 17 to 22. Interestingly, Exline and colleagues were able to pull out significant differences for affect ratings with a small sample size. This may be a product of the greater level of distress in the clinical sample yielding a larger and more easily detected effect size.

Some work using written emotional disclosure indicates that in the case of PTSD written emotional disclosure can be successful at improving mood and helping participants to deal with the symptoms of PTSD though not with reducing these symptoms (Smyth, Hockemeyer, Tulloch, 2008). Although Exline and colleagues did not report data to calculate effect sizes, making a comparison impossible, it may be that in the case of PTSD and mood, S/R framing offers an easy and inexpensive intervention to alleviate some of the distress and anguish experienced with PTSD; if not the actual symptoms themselves.

Another way in which this study was different from Exline and colleagues is the way in which participants came to write using a S/R frame or a secular frame. In the Exline study, participants spontaneously chose to use a S/R frame. In this study, as we were interested in using an experimental design as well as looking specifically at the utility of this approach as a viable intervention, we instructed participants to use a S/R frame or to refrain from doing so regardless of their own S/R beliefs and practices. It is

possible that this lead to dissonance for some individuals who were being asked to write using a frame contrary to their respective approaches or feelings to S/R matters. However, if this were the case we would expect to find a moderator effect of one of the measures of S/R which was not the case with the exception of SAII on GHQO.

Of the measures of health outcomes GHQO was the only one to display acceptable levels of reliability. The effect of writing instructions on GHQO was moderated by the instability of the participant's awareness of and understanding of "God" in their life. Those individuals who were least conflicted about their awareness and understanding of "God" in their lives were also those who benefitted the most from using a S/R writing frame. This may indicate that stability in perception and awareness is more important in regards to perceived health than are other factors such as involvement with institutional faith systems or personal experiences of the sacred.

The third broad limitation that likely impacted the findings of this study is perhaps the largest issue facing any study addressing S/R issues. As noted above the defining and operationalizing of, even the most basic concepts such as what is religiosity or spirituality, within the field is immensely complex. In addition, S/R is not a static concept. Christian Smith has analyzed and published on the sample of young individuals who are participating in the National Study of Youth and Religion (NYSR). One of the observations from his writing is that not only is the way young Americans think and live S/R concepts changing rapidly so too is the environment in which they must engage in the subject (Smith, C. & Snell, P., 2009).

Though Smith's writings pertain immediately to a cohort defined by a narrow age band it is highly likely that people of all ages in our culture are also beset by the fast

pace of change and transition experienced by those individuals in emerging adulthood. Just as the 18 to 23 year olds of the NYSR survey find themselves transitioning in their approach to S/R issues it is likely the rest of the population is as well. It may be that many measures no longer tap into aspects of S/R that have become more important.

Post hoc findings

Although no main effect for either writing instructions or attachment style was found, post hoc analysis using linear regression showed a significant main effect of object relations for 2 of the 11 health outcome measures. Level of object relations significantly predicted the occurrence of life interfering events (β=-.33, $p < .001$) such as visiting the doctor or taking prescription medications. In addition level of object relations development also predicted occurrence of common symptoms (β=-.02, $p < .05$) such as headache or stomach ache. Those individuals with a more developed level of object relations had fewer of these life interfering occurrences and fewer of these common symptoms. It is premature, at least given these results and the low reliability of the health outcome measures, to posit that object relations development may have utility in predicting the occurrence of health difficulties. However, it does raise questions for future investigation. A search of PsychINFO does not yield any empirical papers investigating the possibility of a direct relationship between physical health outcomes and a level of object relations development.

In addition, although the measures showed only moderate reliability, one other measure of health outcome had two significant predictors. GHQLFRQ (which measured how frequently life interfering health related problems occurred) was significantly predicted by SAIG (β=-.69, $p < .05$), reflecting a grandiose idea of ones relationship with

"God" and GID (β=.28, p< .05) reflecting a more deistic as opposed to a more traditionally Christian view of "God".

As grandiosity (feeling their own relationship was more special and unique than others) in an individual's assessment of their relationship with "God" increased the frequency of life interfering health related occurrences decreased. Conversely as individuals reported a more deistic (meaningful, permissive, protective,) view of "God" the frequency increased. It may be that an inflated sense of "God's" interest in oneself serves as an even stronger protective factor against health deteriorating stress than a more moderate or "deistic" view. Further inquiry may not be warranted given the moderate reliability of the health measure. However, it does raise the possibility to expand the knowledge concerning how god image impacts health.

Finally, current negative affect (PANASNNA) was significantly predicted by SAII (β=.25, p< .05), ME (β=.17, p< .05), and GIO (β=1.13, p< .05). Higher instability in the way individuals perceived their relationship with "God" resulted in an increase in current negative affect. A higher frequency of mystical experiences also predicted higher levels of negative affect as did viewing "God" as higher in omniness (omnipresent, omniscient, omnipotent). Interestingly none of these variables has a significant correlation with the others. It is easy to postulate that instability in the way individuals perceive their relationship with "God" and more mystical experiences, which can be disconcerting, could result in an increase in negative affect. It is more difficult to do so for a higher degree of omniness in an individual's god image. Possibly it invokes a sense of "God" being so different from us in our human-ness that it engenders a feeling of separation.

Directions for future investigation

A possibility which warrants further investigation is that the effects of S/R framing are not seen in the quantity of the improvements in health but rather in the speed at which they occur. The earliest reports of health outcomes have been in patients suffering from Rheumatoid Arthritis in which health improvements occurred as soon as 2 weeks after writing (Jones, Pennebaker, 2006). If health outcomes are a product of both emotional expressivity and cognitive reframing/processing (Sloan & Marx, 2004; Sloan, Marx, Epstein, & Lexington, 2007) it may be that a S/R framework may allow for a more intense experiencing and expressing of the negative valences on days 1 and 2, consistent with Exline's findings (emotional expressivity). At the same time, during writing, S/R framing may also provide an easily utilized template for quickly integrating negative events into a less toxic meaning or context (cognitive processing). More direct and intense engaging and expressing of the negative emotions coupled with the easily employed template provided by S/R might accelerate the effects on health outcomes.

An experimental examination of this issue would involve taking appropriate outcome measures daily after the last day of writing to 1 month follow up. Furthermore, it would involve analysis of the actual writing samples to determine the extent to which participants are engaging their negative emotions. This writing level analysis might yield different findings than the broader categorical differentiation between S/R and secular framing used for the current study. Although a complete analysis of the writing samples was beyond the resources of this study, casual perusing of the writing samples rendered some information. Many participants in the S/R group wrote of questioning why God allowed a situation to occur or how they had prayed for relief. For the rest of the sample

very little attention was given to S/R themes. How, and to what, extent individuals make use of S/R themes may be more important than if they use them or not.

In summary, the current study failed to extend the results from the Exline study due to inadequate assessment measures, and a non-clinical, young, and homogenous sample. In addition, due to the desire to use an intentional experimental design, participants were instructed to write using an S/R or secular framework as opposed to being allowed to spontaneously choose. It may be that the sample simply had not experienced negative or traumatic life events of a sufficiently distressing nature to produce a differential effect in regards to writing instructions. It is also possible that contrived refraining or engaging in a S/R framework clouded any effects that may exist. Conducting this study with better instruments, a sample exposed to more severe negative or traumatic life events, and taking more measurements between the last day of writing and the 30 day follow-up might yield different results. This is an important question when taken in the context of deciding for whom a given intervention is most advantageous.

The results of this study offer no support for S/R framing influencing the health effects of written emotional disclosure. Furthermore, attachment style and object relations development do not appear to act as moderators of S/R framing in written emotional disclosure on health outcomes in this population. S/R framing in written emotional disclosure may result in reporting of positive affect by the third day of writing in contrast to secular framing which resulted in a continuation of reporting negative valence, though with this study the effect Exline found was not duplicated. It may be that S/R framing may affect speed at which the effects of written emotional disclosure occur.

Future studies should examine the writing of participants to determine degree of accessing and engaging of negative emotion as well as the extent to which S/R framing facilitates the processing of negative life events. In addition, the time from the last day of writing until significant health outcomes are observed between S/R frame writers and secular frame writers should be examined.

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APPENDIX A

Religiousness Measure (Sethi & Seligman, 1993)

1. Do you believe in "God"?

Yes No

2. How important would you say religion is in your life?

1	2	3	4	5	6	7
Not at all Important						Extremely Important

3. How often do you read Sacred Scripture?

a. more than once a day
b. once a day
c. more than once a week
d. once a week
e. more than once a month
f. less than once a month

4. How often do you pray?

a. more than once a day
b. once a day
c. more than once a week
d. once a week
e. more than once a month
f. less than once a month

5. How often do you attend religious services and activities?

a. more than once a day
b. once a day
c. more than once a week
d. once a week
e. more than once a month
f. less than once a month

6. How much influence do your religious beliefs have on the important decisions of your life?

1	2	3	4	5	6	7
none of my decisions			some of my decisions			all of my decisions

7. Would you marry someone of a different religion?

Yes No

8. How much influence do your religious beliefs have on what you wear?

1	2	3	4	5	6	7
not at all influential			somewhat influential			extremely influential

9. How much influence do your religious beliefs have on what you eat and drink?

1	2	3	4	5	6	7
not at all influential			somewhat influential			extremely influential

10. How much influence do your religious beliefs have on whom you associate with?

1	2	3	4	5	6	7
not at all influential			somewhat influential			extremely influential

11. How much influence do your religious beliefs have on what social activities you undertake?

1	2	3	4	5	6	7
not at all influential			somewhat influential			extremely influential

12. Do you believe in a Heaven?

1	2	3	4	5	6	7
Strongly Disagree			Somewhat agree			Strongly agree

13. Do you believe it possible for all humans to live in harmony together?

1	2	3	4	5	6	7
Strongly Disagree			Somewhat agree			Strongly agree

14. Do you believe in Miracles?

1	2	3	4	5	6	7
Strongly Disagree			Somewhat agree			Strongly agree

15. Do you believe your suffering will be rewarded?

1	2	3	4	5	6	7
Strongly Disagree			Somewhat agree			Strongly agree

16. Do you believe that in the future your children will be able to lead a better life than yourself?

1	2	3	4	5	6	7
Strongly Disagree			Somewhat agree			Strongly agree

17. Do you believe the future will be a better place to live?

1	2	3	4	5	6	7
Strongly Disagree			Somewhat agree			Strongly agree

The Spiritual Assessment Inventory (Hall & Edwards, 1996)

1.Please respond to each statement by circling the number that best represents your experience. Circle

1. if the statement is not true of you at all
2. if the statement is slightly true of you
3. if the statement is moderately true of you
4. if the statement is substantially true of you
5. if the statement is very true of you

2. It is best to answer according to what *really reflects* your experience rather than what you think your experience should be.

3. Give the answer that comes to mind first. Don't spend too much time thinking about an item.

4. Give the best possible response to each statement even if it does not provide all the information you would like.

5.Try your best to respond to all statements. Your answers will be completely confidential.

I have a good sense of how God is working in my life	1	2	3	4	5
I regularly sense God speaking to me through other people	1	2	3	4	5
a.There are times when I feel disappointed in God (b). When this happens, I still want our relationship to continue	1	2	3	4	5
Listening to God is an essential part of my life	1	2	3	4	5
I am frequently aware of God prompting me to do something	1	2	3	4	5
a.There are times that God frustrates me (b). when I feel this way, I still desire to put effort into our relationship	1	2	3	4	5
My experiences of God's responses to me impact me greatly	1	2	3	4	5
I frequently bargain with God	1	2	3	4	5
I am regularly aware of God's presence in my interactions with other people.	1	2	3	4	5
I am very afraid that God will give up on me	1	2	3	4	5
My emotional connection with God is very unstable	1	2	3	4	5
I am very sensitive to what God is teaching me in my relationships with other people	1	2	3	4	5
I almost always feel completely cut off from God	1	2	3	4	5
a. There are times when I feel irritated with God (b). When I feel this way I am able to come to some sort of resolution in our relationship	1	2	3	4	5
I am aware of God responding to me in a variety of ways	1	2	3	4	5
I frequently feel that God is angry with me and punishing me	1	2	3	4	5
I am aware of God attending to me in times of need	1	2	3	4	5
God seems to understand that my needs are more important than most people's	1	2	3	4	5
a. There are times when I feel angry at God (b). When this happens I still have the sense that God will always be with me.	1	2	3	4	5
My relationship with God is an extraordinary one that most people would not understand	1	2	3	4	5
I have a good sense of the direction in which God is guiding me	1	2	3	4	5
There are times when I feel like God doesn't come through for me	1	2	3	4	5
God's way of dealing with other people does not	1	2	3	4	5

apply to me					
a. There are times when I feel betrayed by God (b). When I feel this way , I put effort into restoring our relationship	1	2	3	4	5
My emotional connection with God is very unstable	1	2	3	4	5
No matter how hard I try to avoid them, I still experience many difficulties in my relationship with God	1	2	3	4	5
When I sin, I still have a sense that God cares about what happens to me	1	2	3	4	5
I often worry that I will be left out of God's plans	1	2	3	4	5
When I consult God about decisions in my life, I am aware of his direction and help	1	2	3	4	5
a. There are times when I feel frustrated by God for not responding to my prayers (b). when I feel this way, I am able to talk it through with God	1	2	3	4	5
I often feel I have to please God, or it might reject me	1	2	3	4	5
a. There are times when I feel like God has let me down (b). when this happens my trust in God is not completely broken	1	2	3	4	5
I often completely withdraw from God	1	2	3	4	5
God recognizes that I am more spiritual than most people.	1	2	3	4	5
God does not seem to exist when I am not praying or reading/hearing sacred text	1	2	3	4	5
Manipulating God seems to be the best way to get what I want	1	2	3	4	5

The Index of Core Spiritual Beliefs (Kass, Friedman, Lesserman, Zuttermeister & Benson, 1991)

Instructions: The following questions concern your spiritual or religious beliefs and experiences. There are no right or wrong answers. For each question, circle the number of the answer that is most true for you.

1. How strongly religious (or spiritually oriented) do you consider yourself to be?

Strong	Somewhat Strong	Not Very strong	Not at all strong	Can't answer

2. About how often do you spend time on religious or spiritual practices?

Several times per day Several times per week	Once per Week several times Per month	Once per Month several times per year	Once a Year or less

3. How often have you felt as though you were very close to a powerful spiritual force that seemed to lift you outside yourself?

Never Once or Twice Several times Often Can't Answer

4. How close do you feel to God?

Extremely Close	Somewhat close	Not Very close	I don't believe in God	Can't answer

5. Have you ever had an experience that convinced you God exists?

Yes No Can't Answer

6. Indicate whether you agree or disagree with this statement: "God dwells within you"

Definitely Disagree	Tend to disagree	Tend to agree	Definitely agree

7. The following list describes spiritual experiences that some people have had. Please indicate if you have had any of these experiences and the extent to which each of them has affected your belief in God.

The response choices are:
I had this experience and it:

4). Convinced me of God's existence
3). Strengthened belief in God
2). Did not strengthen belief in God
1). I have never had this experience

___An experience of God's energy or presence

___An experience of a Great Spiritual Figure (e.g. Buddha, Jesus, Elijah, Mary, etc.)

___An experience of angels or guiding spirits

___An experience of communication with someone who has died

___Meeting or listening to a spiritual teacher or master

___An overwhelming experience of love

___An experience of profound inner peace

___An experience of complete joy and ecstacy

___A miraculous (or not normally occurring) event

___A healing of your body or mind (or witnessed such a healing)

___A feeling of unity with the earth and all living beings

___An experience with near death or life after death

___Other-please

explain_____

_____

_____

___

_____

_

Mysticism Scale: Research Form D (M Scale) (Hood, 1975)

Instructions: The following descriptions refer to phenomena that you may not have experienced. In each case note the description carefully and then place a mark in the left margin according to how much the description applies to your own experience. Write a +1, +2, or -2, -1 or ? depending on how you feel in each case.

+1 This description is probably true of my own experience or experiences.
-1 This description is probably not true of my own experience or experiences.
+2 This description is definitely true of my experience or experiences.
-2 This description is definitely not true of my own experience or experiences.
? I cannot decide.

Please mark each item trying to avoid if at all possible marking any item with a ?. In responding to each item, please understand that the items may be considered as applying to one experience or as applying to several different experiences. After completing the booklet, please be sure that all items have been marked-leave no items unanswered.

___I have had an experience which was both timeless and spaceless

___I have never had an experience which was incapable of being expressed in words.

___I have had an experience in which something greater than myself seemed to absorb me.

___I have had an experience in which everything seemed to disappear from my mind until I was conscious only of a void.

___I have experienced profound joy

___I have never had an experience in which I felt myself being absorbed as one with all beings

___I have never experienced a perfectly peaceful state.

___I have never had an experience in which I felt all things were alive.

___I have never had an experience which seemed Holy to me.

___I have never had an experience in which all things seemed aware.

___I have had an experience in which I had no sense of time or space.

___I have had an experience in which I realized the oneness of myself and all things.

___I have had an experience in which a new view of reality was revealed to me.

___I have never experienced anything to be sacred

___I have never had an experience in which time and space were non-existent.

___I have never experienced anything that I could call ultimate reality.

___I have had an experience in which ultimate reality was revealed to me.

___I have had an experience in which I felt that all was perfection at that time.

___I have had an experience in which I felt everything in the world to be part of the same whole.

___I have had an experience which I knew to be sacred.

___I have never had an experience which I was unable to express adequately through language.

___I have had an experience which left me with a feeling of awe.

___I have had an experience that is impossible to communicate.

___I have never had an experience in which my own self seemed to merge into something greater.

___I have never had an experience which left me with a feeling of wonder.

___I have never had an experience in which deeper aspects of reality were revealed to me.

___I have never had an experience in which time, place, and distance were meaningless.

___I have never had an experience in which I became aware of the unity of all things.

___I have had an experience in which all things seemed to be conscious

___I have never had an experience in which all things seemed to be unified into a single whole.

___I have had an experience in which I felt nothing is ever really dead.

___I have had an experience that cannot be expressed in words.

Object Relation scale of the Ego Function Assessment Questionnaire- Revised (Hower, 1987)

This list asks that you estimate how often you have the experience described in each statement. You are to mark your answer by circling the number under the column headed with a word that most accurately reflects your experience. If for some reason you do not understand a question, please do not leave it blank. Instead circle the "?" (the one farthest to the right).

Never=1 Rarely=2 Sometimes=3 Often=4 Always=5

1. I am hurt easily by others	1	2	3	4	5	?
2. My relationship with my mother is as satisfying as it could be	1	2	3	4	5	?
3. I have run away from or "broken up" relationships for fear of getting hurt if I got too close.	1	2	3	4	5	?
4. I dislike the way my father treated me when I was a child.	1	2	3	4	5	?
5. It is hard for me to get close to other people emotionally.	1	2	3	4	5	?
6. Growing up in my home as a child was a pleasant experience.	1	2	3	4	5	?
7. I don't get along well with my friends.	1	2	3	4	5	?
8. I prefer to keep my distance from other people.	1	2	3	4	5	?
9. I don't get along well with my dad.	1	2	3	4	5	?
10. It is hard for me to express feelings of closeness by physically touching other people.	1	2	3	4	5	?
11. I go to restaurants alone.	1	2	3	4	5	?
12. My home life is pleasant and makes me happy.	1	2	3	4	5	?
13. I get along well with members of the opposite sex.	1	2	3	4	5	?
14. Other people seem to understand me well.	1	2	3	4	5	?
15. When people pay attention to me, I am uncomfortable.	1	2	3	4	5	?
16. I like the way my mother was a mother to me when I was growing up.	1	2	3	4	5	?
17. I feel more comfortable with more distant, cool relationships.	1	2	3	4	5	?
18. My relationship with my dad is as satisfying as it could be.	1	2	3	4	5	?
19. It is uncomfortable for me to express feelings of closeness verbally.	1	2	3	4	5	?
20. I don't understand other people well.	1	2	3	4	5	?
21. I don't like the way my mother related to me as a	1	2	3	4	5	?

child.						
22. I feel most comfortable with intense close relationships.	1	2	3	4	5	?
23. When I am hurt by people I wish I could get even but don't actually try to get even.	1	2	3	4	5	?
24. I am attracted to submissive people when I am choosing friends.	1	2	3	4	5	?
25. I have a satisfying relationship with my lover/spouse.	1	2	3	4	5	?
26. Others have told me that I stay rather cool and distant in relationships.	1	2	3	4	5	?
27. I have discovered that the same difficulties occur in my important relationships no matter how hard I try to avoid them.	1	2	3	4	5	?
28. I prefer to keep emotionally at a distance from people.	1	2	3	4	5	?
29. It turns out that my friends are all a certain "type" even when it seemed at first they were different.	1	2	3	4	5	?
30. It is hard for me to get close physically to other people.	1	2	3	4	5	?
31. It is difficult for me to be emotionally intimate with more than one person at a time.	1	2	3	4	5	?
32. My home life now is less pleasing than I would like it to be.	1	2	3	4	5	?
33. I find it hard to let go in a relationship even when things are going very badly.	1	2	3	4	5	?
34. I am afraid others will reject me and abandon me if they get to know the real me.	1	2	3	4	5	?
35. People don't seem to understand me well.	1	2	3	4	5	?
36. In romantic relationships I reach a point where things are getting too close and intimate, and I have actually broken off the relationship because of it.	1	2	3	4	5	?
37. My relationship with my loveS/Rpouse is as satisfying as it could be.	1	2	3	4	5	?
38. I am hurt by other people.	1	2	3	4	5	?
39. My relationships with my friends are as satisfying as they could be.	1	2	3	4	5	?
It is hard to stay emotionally close with others.	1	2	3	4	5	?
40. I don't want people to pay attention to me.	1	2	3	4	5	?
41. In close relationships I reach a point where things are getting too close and intimate and I want to put distance between myself and the other person.	1	2	3	4	5	?

42. There have been times in my life when I wanted very much to live alone and wished I could get a place away from everybody.	1	2	3	4	5	?

Hazan & Shaver's Attachment Style Questionnaire

Please place an X beside the statement which you feel best applies to you

_____I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely or depend on them. I worry that I will be hurt if I allow myself to become to close to others.

____I want to be completely intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others do not value me as much as I value them.

____I am comfortable without close relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

____It is relatively easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.

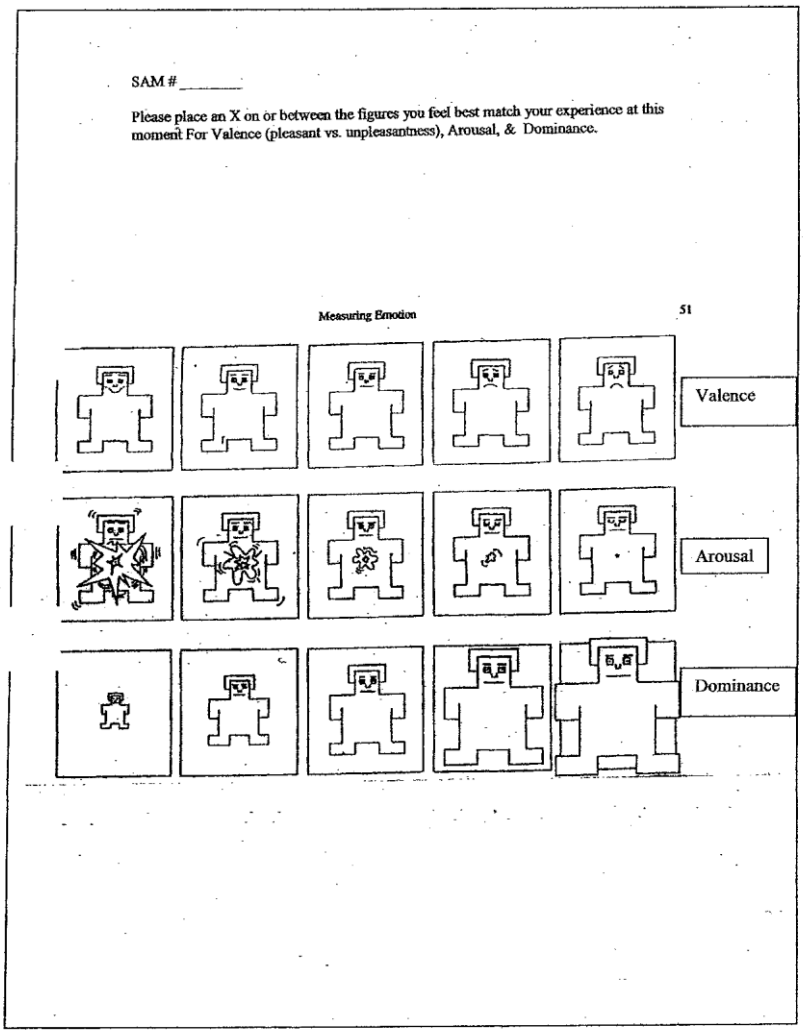
Gorsuch Adjective Check List (Gorsuch, 1968)

The following is a survey to determine what descriptive words apply to "God". Please print a 1, 2, or 3 on the line before each word according to how well you think it describes what the term "God" means to you. There are no right or wrong answers; we are interested in what this concept means to each person. Use the following scale.

1. The word does not describe "God"
2. The word describes "God"
3. The word describes "God" particularly well.

___Absolute	___Critical	___Faithful	___Gracious
___Active	___Cruel	___False	___Guiding
___All-wise	___Damning	___Fast	___Hard
___Avenging	___Dangerous	___Fatherly	___Helpful
___Blessed	___Demanding	___Fearful	___Holy
___Blunt	___Democratic	___Feeble	___Impersonal
___Charitable	___Distant	___Firm	___Important
___Comforting	___Sacred	___Forgiving	___Inaccessible
___Considering	___Eternal	___Formal	___Infinite
___Controlling	___Everlasting	___Gentle	___Jealous
___Creative	___Fair	___Glorious	___Just
___Kind	___Omnipresent	___Safe	___Tough
___Kingly	___Omniscient	___Severe	___True
___Lenient	___Patient	___Sharp	___Unchanging
___Loving	___Passive	___Slow	___Unyielding
___Majestic	___Permissive	___Soft	___Valuable
___Matchless	___Powerful	___Sovereign	___Vigorous
___Meaningful	___Protective	___Steadfast	___Weak
___Meek	___Punishing	___Stern	___Warm
___Merciful	___Real	___Still	___Worthless
___Moving	___Redeeming	___Strong	___Wrathful
___Mythical	___Restrictive	___Supporting	___Yielding
___Omnipotent	___Righteous	___Timely	

The Self-Assessment Manikin (SAM; Lang, 1980)



Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977)

CES-D

INSTRUCTIONS: Circle the number for each statement which best describes how often you felt this way DURING THE PAST WEEK.

	Rarely or none of the Time (Less than 1 Day)	Some or a Little of the Time (1-2 Days)	Occasionally or a Moderate Amount of Time (3-4 Days)	Most or All of the Time (5-7 Days)
1. I was bothered by things that usually don't bother me.	0	1	2	3
2. I did not feel like eating; my appetite was poor.	0	1	2	3
3. I felt that I could not shake off the blues even with help from my friends.	0	1	2	3
4. I felt that I was just as good as other people.	0	1	2	3
5. I had trouble keeping my mind on what I was doing.	0	1	2	3
6. I felt depressed.	0	1	2	3
7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I thought my life had been a failure.	0	1	2	3
10. I felt fearful.	0	1	2	3
11. My sleep was restless.	0	1	2	3
12. I was happy.	0	1	2	3
13. I talked less than usual.	0	1	2	3
14. I felt lonely.	0	1	2	3
15. People were unfriendly.	0	1	2	3
16. I enjoyed life.	0	1	2	3
17. I had crying spells.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt that people disliked me.	0	1	2	3
20. I could not get "going".	0	1	2	3

PANAS-X immediate (Watson & Clark, 1994).

INSTRUCTIONS: READ EACH ITEM AND THEN INDICATE THE EXTENT TO WHICH YOU THIS WAY NOW. IN RESPONDING TO EACH ITEM USE THE FOLLOWING SCALE:

	Very Slightly			Much	Very
1. Interested	0	1	2	3	4
2. Distressed	0	1	2	3	4
3. Excited	0	1	2	3	4
4. Upset	0	1	2	3	4
5. Strong	0	1	2	3	4
6. Guilty	0	1	2	3	4
7. Uneasy	0	1	2	3	4
8. Hostile	0	1	2	3	4
9. Enthusiastic	0	1	2	3	4
10. Proud	0	1	2	3	4
11. Irritable	0	1	2	3	4
12. Alert	0	1	2	3	4
13. Ashamed	0	1	2	3	4
14. Inspired	0	1	2	3	4
15. Nervous	0	1	2	3	4
16. Determined	0	1	2	3	4
17. Attentive	0	1	2	3	4
18. Jittery	0	1	2	3	4
19. Active	0	1	2	3	4
20. Afraid	0	1	2	3	

PANAS-X month prior (Watson & Clark, 1994).

INSTRUCTIONS: READ EACH ITEM AND THEN INDICATE THE EXTENT TO WHICH YOU HAVE FELT THAT WAY IN THE PAST MONTH. IN RESPONDING TO EACH ITEM USE THE FOLLOWING SCLAE:

	Very Slightly			Much	Very
1. Interested	0	1	2	3	4
2. Distressed	0	1	2	3	4
3. Excited	0	1	2	3	4
4. Upset	0	1	2	3	4
5. Strong	0	1	2	3	4
6. Guilty	0	1	2	3	4
7. Uneasy	0	1	2	3	4
8. Hostile	0	1	2	3	4
9. Enthusiastic	0	1	2	3	4
10. Proud	0	1	2	3	4
11. Irritable	0	1	2	3	4
12. Alert	0	1	2	3	4
13. Ashamed	0	1	2	3	4
14. Inspired	0	1	2	3	4
15. Nervous	0	1	2	3	4
16. Determined	0	1	2	3	4
17. Attentive	0	1	2	3	4
18. Jittery	0	1	2	3	4
19. Active	0	1	2	3	4
20. Afraid	0	1	2	3	4

Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977)

CES-D

INSTRUCTIONS: Circle the number for each statement which best describes how often you felt this way DURING THE PAST WEEK.

		Rarely or none of the Time (Less than 1 Day)	Some or a Little of the Time (1-2 Days)	Occasionally or a Moderate Amount of Time (3-4 Days)	Most or All of the Time (5-7 Days)
1.	I was bothered by things that usually don't bother me.	0	1	2	3
2.	I did not feel like eating; my appetite was poor.	0	1	2	3
3.	I felt that I could not shake off the blues even with help from my friends.	0	1	2	3
4.	I felt that I was just as good as other people.	0	1	2	3
5.	I had trouble keeping my mind on what I was doing.	0	1	2	3
6.	I felt depressed.	0	1	2	3
7.	I felt that everything I did was an effort.	0	1	2	3
8.	I felt hopeful about the future.	0	1	2	3
9.	I thought my life had been a failure.	0	1	2	3
10.	I felt fearful.	0	1	2	3
11.	My sleep was restless.	0	1	2	3
12.	I was happy.	0	1	2	3
13.	I talked less than usual.	0	1	2	3
14.	I felt lonely.	0	1	2	3
15.	People were unfriendly.	0	1	2	3
16.	I enjoyed life.	0	1	2	3
17.	I had crying spells.	0	1	2	3
18.	I felt sad.	0	1	2	3
19.	I felt that people disliked me.	0	1	2	3
20.	I could not get "going".	0	1	2	3

Adaption of the General Health Status Questionnaire (Goldberg, David P., & Hillier, V.F., 1979)

General Health Questionnaire

We would like to get an impression of how healthy you feel you are overall, compared t other people your age. Please answer each of the following questions as accurately and honestly as possible. Circle the appropriate number.

1. How would you rate your overall health?

1	2	3	4	5	6	7
Much Worse Than Average			Average			Much Better Than Average

2. How often do you experience aches and pains?

1	2	3	4	5	6	7
More Often Than Average			Average Frequency			Less Often Than Average

3. When you do experience aches and pains, how much do they bother you?

1	2	3	4	5	6	7
Much More Than Average			An Average Amount			Much Less Than Average

4. How often do you go to a doctor or other health care professional?

1	2	3	4	5	6	7
More Often Than Average			Average Frequency			Less Often Than Average

5. How often do you take some type of medication for pain?

1	2	3	4	5	6	7
More Often Than Average			Average Frequency			Less Often Than Average

Please answer the following questions as accurately and honestly as possible. Circle "yes" or "no" for each item. For each "yes", provide the additional details as requested. Over the past month (i.e. 30 days) have you:

BEEN TO THE DOCTOR	Yes / No	How Many Times? _____	Why? _____
BEEN TO ANOTHER HEALTH CARE PROVIDER (e.g. chiropractor, physical therapist, etc.)	Yes / No	How Many Times? _____	Why? _____
BEEN SICK	Yes / No	How Many Times? _____	What Type of Illness? _____
MISSED WORK OR SCHOOL DUE TO ILLNESS	Yes / No	How Many Times? _____	What Type of Illness? _____
TAKEN PRESCRIPTION PAIN MEDICINE	Yes / No	How Many Times? _____	For What? _____
TAKEN NON-PRESCRIPTION PAIN MEDICINE	Yes / No	How Many Times? _____	For What? _____
TAKEN SOME OTHER MEDICINE	Yes / No	How Many Times? _____	For What? _____

Please indicate whether you experienced any of the following symptoms over the past month. If so, please provide the following details: 1) How many times did you experience the symptom; 2) How severe was the pain on a scale from 0-100, where 0 means no pain and 100 means the most intense pain imaginable; 3) How long did the pain last, or if multiple episodes, how long did the episodes last on average (please indicate whether you are reporting the duration in days or hours).

SYMPTOM	Did you have it?	Number of Times you had it.	How Severe Was It? (0-100)	Duration in hours or days (please indicate which)
HEADACHE	Yes / No			
BACKACHE	Yes / No			
MUSCLE PAIN	Yes / No			
JOINT PAIN	Yes / No			
STOMACH PAIN	Yes / No			
PREMENSTRUAL OR MENSTRUAL PAIN	Yes / No			
DENTAL OR FACIAL PAIN	Yes / No			
OTHER PAIN: _____ _____	Yes / No			

Instructions for scoring of measures

-Religiousness Measure (Sethi & Seligman, 1993) – This measure yields a single dimensional score. Sum questions 2-15 then divide by 15 for the mean.

-Spiritual Assessment Inventory (Hall & Edwards, 1996)- This instrument yields 4 dimensional scores that are determined by summing the indicated responses.

-Spiritual Assessment/Awareness (1,2,5,7,9,12,15,17,21,29)

-Spiritual Assessment/Instability (8,10,11,13,16,25,26,28,31,33,35)

-Spiritual Assessment/Defensiveness (3,6,14,19,22,24,30,32)

-Spiritual Assessment/Grandiosity (18,20,23,34,36)

- Index of Core Spiritual Beliefs (Kass, Friedman, Lesserman, Zuttermeister & Benson, 1991)- This instrument yields a single dimensional score and is determined by calculating a mean for items 1-6.

- Mysticism Scale: Research Form D (M Scale) (Hood, 1975) - This instrument gives single dimensional score. Scores for items (2,6,7,8,9,10,14,15,16,21,24,25,26,27,28,30) are reversed then the score for each item is increased by 3. The sum of the new scores is the mysticism rating.

-The object relations subscale of the Ego Function Assessment Questionnaire- Revised (Hower, 1987) - This instrument yields a single dimensional score for the level of object relations maturity by summing the items.

- Hazan & Shaver's Attachment Style Questionnaire – This instrument yields a statement of attachment style from 1 of the 3 attachment styles Hazan & Shaver propose. The first choice indicates avoidant attachment, the second anxious-ambivalent attachment, and the third secure attachment. For the purposes of this study and because of past research attachment style was then divided into secure and insecure. The first two options represent insecure styles of attachment and the third secure attachment.

- Gorsuch Adjective Check List (Gorsuch, 1968)- This instrument yields 5 separate dimensional scores by converting scores (1=-1, 2=0, 3=1) then calculating the means for the indicated values.

-God Image Traditional Christian (1,3,5,7,8,9,10,11,19,20,21,22,23,26,29,30,32,33,34,35,37,38,40,42,44,45,46,48,50,51,53,54,56,57,58,59,62,63,65,66,68,74,75,76,78,79,82,85,86,88)

-God Image Deistic (18,39,41,55,60)

-God Image Wrathful (4,6,12,13,14,36,43,64,70,71,76,81,90)

-God Image Omniness (42,56,57,58)

-God Image Irrelavent (24,28,87,89)

- The Self-Assessment Manikin (SAM; Lang, 1980)- This instrument yields an immediate rating of the valence and arousal of an individual's experience. For the valence scale 5 pictures decrease in pleasantness moving across the page from left to right. An X is placed on or between the figures creating a scale of 1-9 with higher scores indicating a less pleasant experience. The arousal scale has 5 pictures which

decrease in level of arousal moving across the page from left to right. An X is placed on or between the figures creating a scale of 1-9 with higher scores indicating a less arousing experience.

- Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977)- This instrument yields a single dimensional score of symptoms of depression and anxiety. Items (4,8,12,16) are reversed and then a sum is calculated with the new values.

- PANAS-X (Watson & Clark, 1994)- This instrument yields a dimensional score for positive affect and a dimensional score for negative affect. In this study affect was measured for both the moment and for the month prior. Scoring is the same for both. For positive affect sum items (1,3,5,9,12,14,16,17,19) and for negative affect sum items (2,4,6,7,8,11,13,15,18,20).

- Adaption of the General Health Status Questionnaire (Goldberg, David P., & Hillier, V.F., 1979) This instrument was adapted for quicker use in experimental settings. It yields 6 dimensional scores for different aspects of health. Each score is determined by calculating the mean for the indicated items.

-General Health Overall (1,2,3,4,5)

-General Health Life Occurrence (6,7,8,9,10,11,12)

-General Health Life Frequency (13,14,15,16,17,18,19)

-General Health Symptom Occurrence (20,21,22,23,24,25,26,27)

-General Health Symptom Frequency (28,29,30,31,32,33,35,35)

-General Health Sympton Intensity (36,37,38,39,40,41,42,43)

APPENDIX B

Instructions for the religious framing group

For the next three days, I want you to write about the most traumatic experience you have ever had. In your writing, I want you to really let go and explore your very deepest emotions and thoughts. It is critical that you delve deeply. Ideally, I would like you to write about those parts of the experience you found hard to share with others. Perhaps this will provide an opportunity to really examine those thoughts and emotions. Remember that you have three days to write. You can write about the same experience for all three days or different experiences each day. As you do so please write about your experience using a religious or spiritual view. You might talk about how this experience affected the way you think about "God". You might also think about religious or spiritual behaviors you might engage in to deal with the experience such as prayer or meditation. These are just some examples, the important thing is that you use a religious or spiritual perspective to write about this situation even if you do not have any religious or spiritual beliefs.

Instructions for the Non-religious framing group.

For the next three days, I want you to write about the most traumatic experience you have ever had. In your writing, I want you to really let go and explore your very deepest emotions and thoughts. It is critical that you delve deeply. Ideally, I would like you to write about those parts of the

experience you found hard to share with others. Perhaps this will provide an opportunity to really examine those thoughts and emotions. Remember that you have three days to write. You can write about the same traumatic experience for all three days or different experiences each day. As you write it is important that you not use any religious or spiritual ideas or references. Even if you have religious or spiritual beliefs please do not use them for this experiment.

APPENDIX C

Table 1.
Abbreviations for measures used in the text

Measure Abreviation	Measure
RM	Religiousness Measure
SAIA	Spiritual Assessment Inventory-Awareness
SAII	Spiritual Assessment Inventory-Instability
SAID	Spiritual Assessment Inventory-Defensiveness
SAIG	Spiritual Assessment Inventory-Grandiosity
ICSE	Index of Core Spiritual Experiences
ME	Mystical Experiences
OR	Object Relations
ATT	Attachment (secure vs. nonsecure)
GITD	God Image-Traditional Christian
GID	God Image- Deistic
GIW	God Image-Wrathful
GIO	God Image-Omniness
GII	God Image-Irrelevancy
PANASMPA	PANAS for the past month-positive affect
PANASMNA	PANAS for the past month-negative affect
PANASNPA	PANAS now-positive affect
PANASNNA	PANAS now-negative affect
CESD	Center for Epidemeological Studies-Depression
GHQO	General Health Status Questionnaire overall health rating
GHQLOCC	General Health Status Questionnaire-Life interfering health related occurances
GHQLFRQ	General Health Status Questionnaire Life interfering health related occurances frequency
GHQSOCC	General Health Status Questionnaire symptom occurance
GHQSFRQ	General Health Status Questionnaire symptom frequency
GHQSSEV	General Health Status Questionnaire symptom severity

5 minutes	45 minute	10 minutes	30 seconds	10 minutes	30 seconds
Informed Consent	Instructions Pre-writing questionnaires Pre-writing valence rating	Writing	Mid-writing valence rating	Writing	Post-writing valence rating

Figure 1. Timeline Day 1. On the first day of the study participants were informed of what the study consisted of and filled out the questionnaires listed above. After all of the participants had finished they were instructed on the writing procedure and how to fill out the SAM rating forms. They were then asked to fill out the first SAM valence rating, turn to their topic page, read it, and begin writing. After 10 minutes of writing participants were asked to fill out another SAM valence rating and begin writing again. After another 10 minutes of writing they were again asked to fill out SAM valence rating form. They were then instructed to leave their information in their chairs and dismissed with instructions to return the next night.

30 seconds	10 minutes	30 seconds	10 minutes	30 seconds
Pre-writing valence writing	Writing	Mid-writing valence rating	Writing	Post-writing valence rating

Figure 2. Timeline Day 2. On the second day of writing participants were instructed to continue writing following the same instructions as they had for day1. They were then asked to fill out the first SAM valence rating, turn to their topic page, read it, and begin writing. After 10 minutes of writing participants were asked to fill out another SAM valence rating and begin writing again. After another 10 minutes of writing they were again asked to fill out SAM valence rating form. They were then instructed to leave their information in their chairs and dismissed with instructions to return the next night.

30 seconds	10 minutes	30 seconds	10 minutes	30 seconds	30 days later 15 minutes
Pre-writing valence rating	Writing	Mid-writing valence rating	Writing	Post-writing valence rating	Post-test health questionnaire

Figure 3. Timeline Day 3 and follow-up. On the third day of writing participants were instructed to continue writing following the same instructions as they had for day1 and day 2. They were then asked to fill out the first SAM valence rating, turn to their topic page, read it, and begin writing. After 10 minutes of writing participants were asked to fill out another SAM valence rating and begin writing again. After another 10 minutes of writing they were again asked to fill out SAM valence rating form. They were then instructed to leave their information in their chairs and dismissed with instructions to return the next night. Thirty days after day 3 of writing participants returned to fill out a follow-up questionnaire consisting of the health and psychological functioning questionnaires they had filled out on day 1.

Table 2.

Descriptives for Age and Education

	M	*Mdn*	Mode	*SD*	Variance	*Min*	*Max*	Range
Age	18.57	18.00	18.00	1.073	1.15	17.00	28.00	11.00
Education	13.05	13.00	13.00	1.275	1.63	.00	16.00	16.00

Table 3.

Frequencies and percentages for gender, faith, and ethnicity

	Frequency	Percentage
Female	71	36.8
Male	121	62.7
Caucasian	131	67.9
African American	2	1.0
Latin	38	19.7
Asian	10	5.2
Other Ethnicity	9	4.7
No Faith	27	14.0
Christian	99	51.3
Islamic	3	1.6
Buddhism	1	.5
Other	63	32.6

Table 4.

Frequencies and percentages for gender and attachment style

	Frequency	Percentage
Secure Attachment Female	39	54.2
Insecure Attachment Female	33	45.8
Secure Attachment Male	87	71.9
Insecure Attachment Male	34	28.1

Table 5.

Correlations among independent variables

	RM	SAIA	SAII	SAID	SAIG	ICSE	ME	OR	GITD	GID	GIW	GIO	GII
RM	1												
SAIA	.80**	1											
SAII	-.16*	-.23**	1										
SAID	.27**	.32**	.32**	1									
SAIG	.39	.49**	.14	.32**	1								
ICSE	.67**	.77**	-.14*	.31**	.45**	1							
ME	-.05	.00	.01	.04	.05	-.05*	1						
OR	-.18*	-.16*	-.41**	.13	-.02	-.22**	.06	1					
GITD	.46**	.48**	.05	.23**	.32**	.42*	.00	-.03	1				
GID	.34**	.34**	.06	.17*	.21**	.32**	.08	-.02	.79**	1			
GIW	.46**	.45**	.02	.22**	.26**	.41**	-.05	-.07	.92**	.76**	1		
GIO	.45**	.46**	-.01	.21**	.31**	.36**	-.02	-.11	.89**	.71**	.85**	1	
GII	-.00	-.01	.20**	.10	.13	-.03	.01	-.08	.46**	.47**	.41**	.31**	1

Note *p<.05, **p<.001

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy.

Table 6.

Correlations among independent and dependent variables

	PM2PA	PM2NA	PN2PA	PN2NA	CESD	GHQO2	GHQLO2	GHQLF2	GHQSO2	GHQSF2	GHQSS2
RM	.04	.04	.20	.05	.01	.02	.02	.12	-.01	-.06	-.02
SAIA	.13	-.04	.26**	.02	-.01	.05	.06	.08	.05	.06	-.01
SAII	-.09	.31**	.08	.18*	.22**	-.03	-.04	-.01	.04	.12	.08
SAID	.08	-.04	.17	-.01	-.05	-.05	.04	.12	.04	.03	.06
SAIG	.01	.13	.11	.09	.11	-.03	-.01	-.03	-.02	.02	-.06
ICSE	.04	-.01	.21**	-.03	-.02	.03	.06	.07	.06	-.13	.04
ME	.15*	.04	.15*	.07	-.09	.07	.10	.03	.05	-.01	.00
OR	.13	-.28**	.04	-.22*	-.27**	.09	-.18*	-.09	-.22**	-.20**	-.15*
GITD	.035	.082	.11	-.02	-.02	.12	-.03	-.04	-.16*	-.17*	-.10
GID	.12	.06	.21**	.01	-.07	.09	-.07	-.14*	-.19**	-.21**	-.12
GIW	.04	.06	.10	-.01	-.07	.16*	-.09	-.06	-.17*	-.19**	-.10
GIO	.05	.06	.14	-.02	-.00	.09	.01	-.00	-.10	-.138	-.074
GII	.03	-.04	.05	.00	-.02	.05	-.02	-.02	-.06	-.02	.01

Note *p<.05, Note **p<.001

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy, PM2PA=PANAS2 month prior positive affect, PM2NA=PANAS2 month prior negative affect, PN2PA=PANAS2 now positive affect, PN2NA=PANAS2 now negative affect, CESD=Center for epidemiological studies depression scale, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

Table 7.

Correlations among dependent variables

	PM2PA	PM2NA	PN2PA	PN2NA	CESD2	GHQO2	GHQLO2	GHQLF2	GHQSO2	GHQSF2	GHQSS2
PM2PA	1										
PM2NA	-.12	1									
PN2PA	.54**	-.05	1								
PN2NA	-.13	.57**	.09	1							
CESD2	-.42**	.60**	-.17*	.52**	1						
GHQO2	.49**	.03	.31**	-.06	-.18	1					
GHQLO2	-.07	.04	-.05	.03	.04	-.37**	1				
GHQLF2	-.12	-.03	.08	-.08	-.08	-.25**	.52**	1			
GHQSO2	-.05	.12	-.06	.07	.17*	-.25**	.31**	.17*	1		
GHQSF2	-.08	.07	-.06	.05	.14	-.32**	.31**	.30*	.44**	1	
GHQSS2	-.01	.04	-.03	.03	.13	-.29**	.27**	.13	.70**	.35**	1

Note *p<.05

Note **p<.001

Note; PM2PA=PANAS2 month prior positive affect, PM2NA=PANAS2 month prior negative affect, PN2PA=PANAS2 now positive affect, PN2NA=PANAS2 now negative affect, CESD=Center for epidemiological studies depression scale, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity

Table 8.

Reliability Coeffcients and Reported Reliability Coefficients

	Cronbach's Alpha	N	Reported Cronbach's Alpha
RM	.87*	15	.90
SAIA	.93*	10	.52-.91
SAII	.83*	11	.52-.91
SAID	.87*	8	.52-.91
SAIG	.48	5	.52-.91
ICSE	.82*	19	.69
ME	.88*	32	.69-.76
OR	.61	42	.95
GITRD	.95*	50	.49-.89
GID	.63	5	.49-.89
GIW	.84*	13	.49-.89
GIO	.76	4	.49-.89
GII	.36	4	.49-.89
PANASN	.93*	40	.85
PANASP	.93*	36	.88
SAMV	.76	9	.63-.93
SAMA	.83*	9	.92-.98
CESD	.92*	40	.84-.90
GHQO	.83*	10	NA
GHQLO	.65	14	NA
GHQLF	.38	14	NA
GHQSO	.69	16	NA
GHQSF	.59	16	NA
GHQSS	.59	16	NA

Note. NA=Reliability coefficients were not available., Note. *=acceptable reliability.

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy, PANASP=PANAS positive affect, PANASN=PANAS negative affect, SAMV=Self assessment mannequin valence, SAMA= Self assessment mannequin arousal, CESD=Center for epidemiological studies depression scale, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurrence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

Table 9.

Results of dependent samples t-tests for health outcomes

	Time 1		Time 2			
	M	*SD*	*M*	*SD*	*t*	*d*
PANASMPA	29.72	6.12	27.42	7.12	4.79**	.35
PANASMNA	19.88	7.79	16.04	6.93	8.02**	.52
PANASNPA	20.65	9.84	22.66	8.99	5.24**	.63
PANASNNA	10.67	8.78	7.71	7.12	-7.92**	.37
CESD	18.27	10.13	17.37	10.55	1.17	NA
GHQO	24.53	5.18	24.36	5.87	-23.92	NA
GHQLO	2.11	1.45	1.81	1.52	.41**	.20
GHQLF	10.61	14.04	8.08	11.14	3.313*	.20
GHQSO	2.89	1.65	2.17	1.54	2.44**	.45
GHQSF	14.64	16.68	10.43	14.37	6.88**	.27
GHQSS	16.25	13.88	12.03	12.64	3.97**	.32

Note. *p<.05

Note. **p< .001

Note; PANASMPA=PANAS month prior positive affect, PANASMNA=PANAS month prior negative affect, PANASNPA=PANAS now positive affect, PANASNNA=PANAS now negative affect, CESD=Center for epidemiological studies depression scale, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurrence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

Table 10.

Results of dependent samples t-tests for valence ratings

	SAM pre-writing		SAM post-writing			
	M	*SD*	*M*	*SD*	*t*	*d*
Day 1	.8385	1.71228	-1.3684	2.08320	13.32**	1.16
Day 2	1.3834	1.88142	-.7053	2.20569	10.67**	1.01
Day 3	1.4508	1.75562	-.2073	2.14781	9.76**	.84

Note. **p< .001

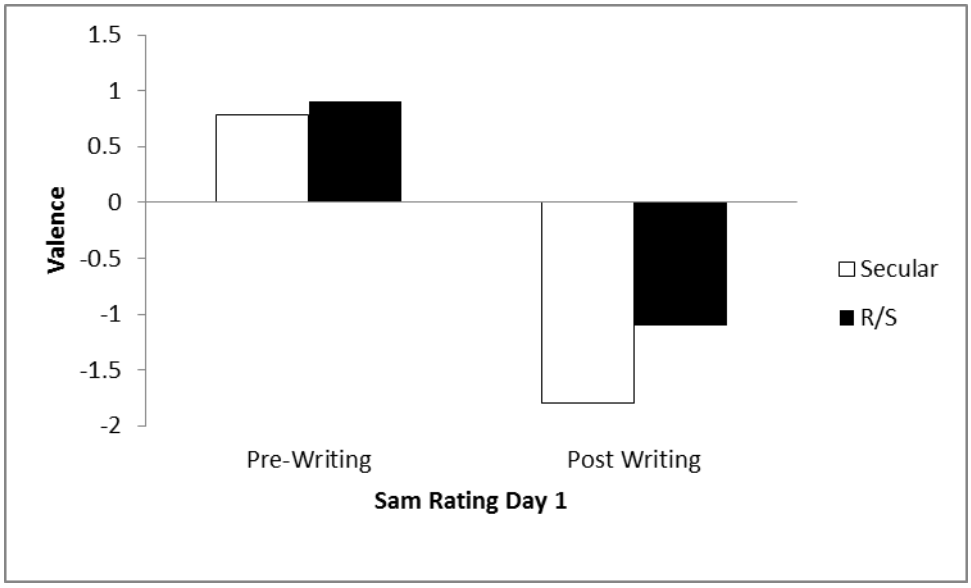


Figure 4. SAM valence ratings by topic for day 1. Scores on the SAM range from 1-9. In this graph the results have been adjusted for visual simplicity using 5 as a neutral score. Scores less than 5 which indicate unpleasant valence are depicted as below the horizontal axis. Scores above 5 which indicate pleasant valence are depicted above the horizontal axis.

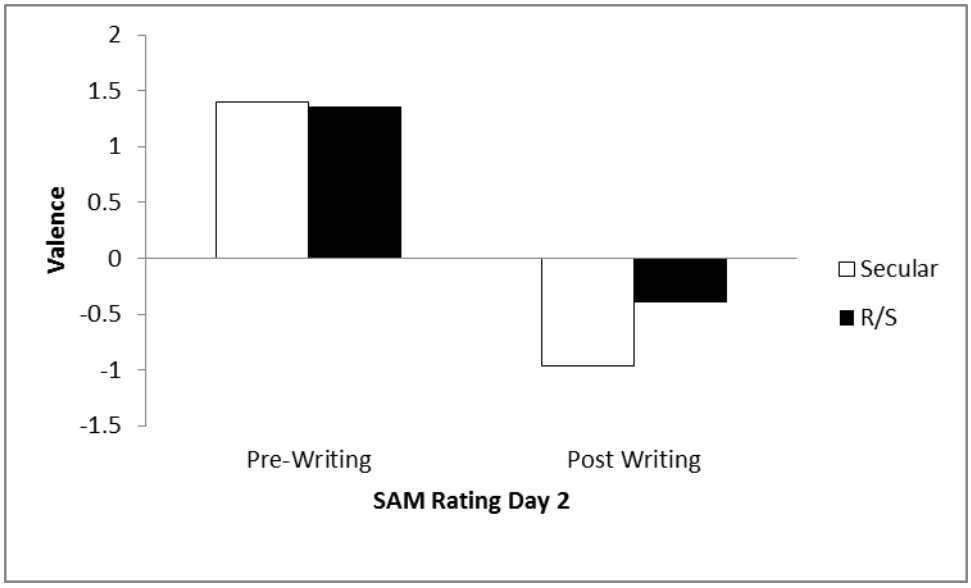


Figure 5. SAM valence ratings by topic for day 2. Scores on the SAM range from 1-9. In this graph the results have been adjusted for visual simplicity using 5 as a neutral score. Scores less than 5 which indicate unpleasant valence are depicted as below the horizontal axis. Scores above 5 which indicate pleasant valence are depicted above the horizontal axis.

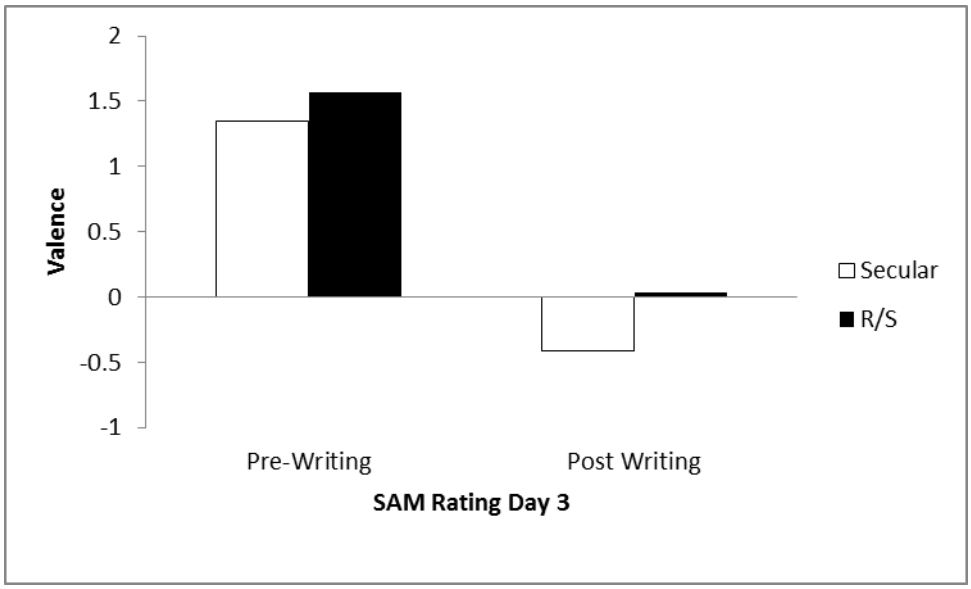


Figure 6. SAM valence ratings by topic for Day 3. Scores on the SAM range from 1-9. In this graph the results have been adjusted for visual simplicity using 5 as a neutral score. Scores less than 5 which indicate unpleasant valence are depicted as below the horizontal axis. Scores above 5 which indicate pleasant valence are depicted above the horizontal axis.

Table 11.

One way ANOVA of outcome variables via writing instructions

	Source	*SS*	*df*	*MS*	*F*	*p*
SAMV33	Between Groups	9.71	1	9.71	2.10	.148
	Within Groups	875.94	190	4.61		
	Total	885.66	191			
PANASMPA	Between Groups	47.77	1	47.77	1.00	.317
	Within Groups	8905.89	188	47.37		
	Total	8953.66	189			
PANASMNA	Between Groups	87.61	1	87.61	1.90	.170
	Within Groups	8618.95	187	46.09		
	Total	8706.57	188			
PANASNPA	Between Groups	150.81	1	150.81	1.78	.183
	Within Groups	15888.18	188	84.51		
	Total	16038.99	189			
PANASNNA	Between Groups	39.16	1	39.16	.49	.481
	Within Groups	14917.57	190	78.51		
	Total	14956.74	191			
CESD	Between Groups	21.67	1	21.67	.20	.648
	Within Groups	17938.23	173	103.68		
	Total	17959.90	174			
GHQO	Between Groups	71.39	1	71.39	2.99	.085
	Within Groups	4533.08	190	23.85		
	Total	4604.47	191			
GHQLO	Between Groups	2.19	1	2.19	.82	.366
	Within Groups	507.50	190	2.67		
	Total	509.70	191			
GHQLF	Between Groups	52.23	1	52.23	.24	.619
	Within Groups	39897.63	190	209.98		
	Total	39949.87	191			
GHQSO	Between Groups	1.35	1	1.35	.62	.429
	Within Groups	409.46	190	2.15		
	Total	410.81	191			
GHQSF	Between Groups	5.59	1	5.59	.02	.873
	Within Groups	41595.43	190	218.92		
	Total	41601.03	191			
GHQSS	Between Groups	68.89	1	68.89	.32	.567
	Within Groups	39900.51	190	210.00		
	Total	39969.40	191			

Note; SAMV33=Self assessment mannequin valence rating for the final rating on day 3 of writing, PANASMPA=PANAS month prior positive affect, PANASMNA=PANAS month prior negative affect, PANASNPA=PANAS now positive affect, PANASNNA=PANAS now negative affect, CESD=Center for epidemiological studies depression scale, GHQO=General health questionnaire overall , GHQLO=General health questionnaire life occurrence, GHQLFQ=General health questionnaire life frequency, GHQSO= General health questionnaire symptom occurrence, GHQSF=General health questionnaire symptom frequency, GHQSS=General health questionnaire symptom severity.

Table 12.
Beta values for significant predictors of health outcomes

	GHQ LOCC	GHQ LFRQ	GHQ SOCC	GHQ SFRQ	GHQ SSEV
RM					
SAIA					
SAII					
SAID					
SAIG		-.69			
ICSE					
ME					
OR	-.33*		-.02		
GITRD					
GID		.28			
GIW					
GIO					
GII					

Note. *p< .001

Note. The vertical axis lists the predictor variables and the horizontal axis lists the health outcomes.

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy, GHQO2=General health questionnaire overall 2, GHQLO2=General health questionnaire life occurence, GHQLFQ=General health questionnaire life frequency, GHQSO2= General health questionnaire symptom occurrence, GHQSF2General health questionnaire symptom frequency, GHQSS2=General health questionnaire symptom severity.

Table 13.
Beta values for significant predictors of affect

	PANAS MPA	PANAS MNA	PANAS NPA	PANAS NNA	CESD
RM					
SAIA					
SAII				.25	
SAID					
SAIG					
ICSE					
ME				.17	
OR					
GITRD					
GID					
GIW					
GIO				1.13	
GII					

Note. *p< .001

Note. The vertical axis lists the predictor variables and the horizontal axis lists psychological outcomes.

Note; RM=Religiousness measure, SAIA=Spiritual assessment inventory awareness, SAII=Spiritual assessment inventory instability, SAID=Spiritual assessment inventory defensiveness, SAIG=Spiritual assessment inventory grandiosity, ICSE=Index of core spiritual experiences, ME=Mystical Experiences, OR=Object relations, GITD=God image traditional Christian, GID=God image deistic, GIW=God image wrathful, GIO=God image omniness, GII=God image irrelevancy, PM2PA=PANAS2 month prior positive affect, PM2NA=PANAS2 month prior negative affect, PN2PA=PANAS2 now positive affect, PN2NA=PANAS2 now negative affect, CESD=Center for epidemiological studies depression scale.

Table 14.
SAII as moderator of GHQO via writing instructions

	B	*SE B*	**β**	R^2	$_{\Delta R}$**2**	$_{d}$
GHQO					.03	.33
Step 1				.01		
Topic	-.961	.851	-.082			
SAII	-.028	.051	-.039			
Step 2				.03		
Topic	-.973	.842	-.083			
SAII	-.023	.051	-.033			
Topic X SAII	.229	.103	.160			

Note; GHQO=General health questionnaire overall, SAII=Spiritual assessment inventory instability.

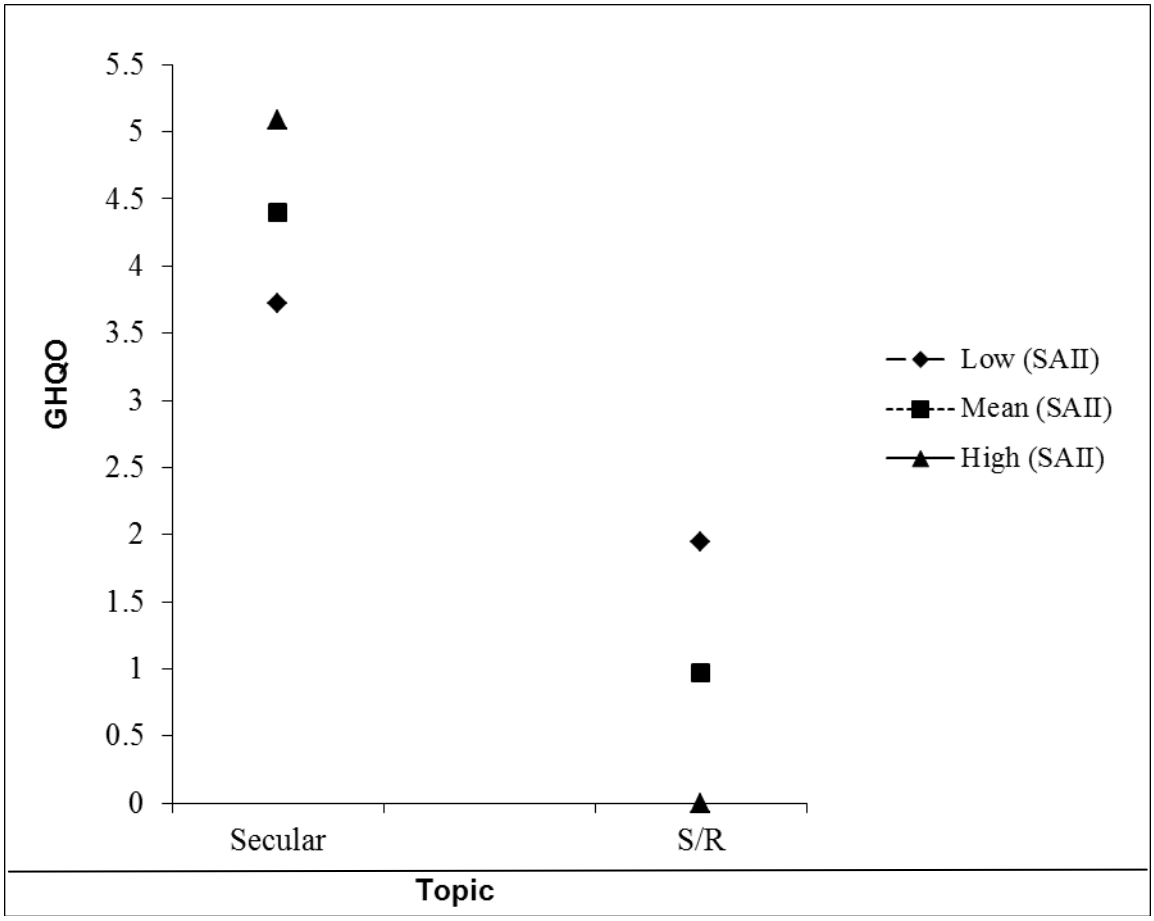


Figure 7. Moderator effect of SAII (Spiritual Assessment Inventory Instability) on GHQO (General health questionnaire overall) via writing instructions. For individuals who were asked to write using an S/R framework the perception of overall health was the lowest for those individuals who reported the highest instability in the way they viewed their relationship with "God". Conversely those who reported the lowest instability in the way they viewed their relationship with "God" had the highest reported overall health.

VITA

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