Positive Psychological and Religious Characteristics as Moderators of Negative Life Events and Depressive Symptoms: A Multiethnic Comparison.

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Positive Psychological and Religious Characteristics as Moderators of Negative Life Events and Depressive Symptoms: A Multiethnic Comparison

A thesis
presented to
the faculty of the Department of Psychology
East Tennessee State University

In partial fulfillment
of the requirements for the degree
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by
Preston Lee Visser
December 2009

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Keywords: Depressive Symptoms, Ethnicity, Life Events, Spirituality, Optimism, Hope
ABSTRACT

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by

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Hope, optimism, and several markers of religiosity and spirituality were examined as potential moderators of the association between negative life events and depressive symptoms in a secondary data analysis of an ethnically diverse sample. Participants (267 female, 119 male) were college students enrolled at an urban Northeastern university. It was hypothesized that negative life events would be associated with increased depressive symptoms and that higher levels of hope, optimism, and religious and spiritual variables would attenuate this relationship. Ethnically-stratified moderation analyses were conducted to assess for differences in moderation between Blacks, Hispanics, Whites, and Asians. Hypotheses were generally supported, with some ethnic variation in findings. Although hope and optimism predicted decreased depressive symptoms in Blacks, Hispanics, and Whites, optimism was a significant moderator in Whites only. Measures of religiosity were significant moderators among Blacks as well as Whites. Clinical and research implications are explored based on the extant literature.
ACKNOWLEDGEMENTS

A valuable practice that I, regrettably, often neglect is reflecting upon the countless blessings I experience. In taking one step closer to my educational goals, I am reminded of the many people who have been instrumental in fostering personal and academic success in my life. I would be a lesser person without their unconditional support and persistent encouragement.

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CHAPTER 1
INTRODUCTION

Depression is one of the most pervasive and costly psychological disorders in the United States (Greenberg et al., 2003), and it is predictive of increased risk for numerous negative outcomes such as physical disease, premature death, and loss of quality of life (Gallegos-Carrillo et al., 2009; Gutierrez, Osman, Kopper, Barrios, & Bagge, 2000; Insel & Charney, 2003; Wulsin, Vaillant, & Wells, 1999). Of particular concern, depression is a growing problem among college students, for whom the prevalence of major depressive disorder (MDD) increased from approximately 10.0% in 2000 to 14.5% in 2006 (ACHA, 2000; ACHA, 2006). Some ethnic and racial groups in the United States such as Mexican Americans and Blacks may also be at increased risk for depression compared with non-Hispanic Whites (Hasin, Goodwin, Stinson, & Grant, 2005; Oquendo, Lizardi, Greenwald, Weissman, & Mann, 2004; Roberts, Roberts, & Chen, 1997). Factors that may play a role in the etiology of depression such as levels of spirituality and life stress have been found to differ across ethnic groups (Mangold, Veraza, Kinkler, & Kinney, 2007; Perez, 2002; Ramos, 2005).

Consistently, the experience of stressful life events is strongly predictive of depression (Kessler, 1997), yet stress alone is not sufficient to precipitate a depressive episode (Kendler, Karkowski, & Prescott, 1999). The study of characteristics that decrease individuals’ probability of becoming depressed even when they have experienced stressful life events has recently gained momentum in the empirical literature (Grote, Bledsoe, Larkin, Lemay, & Brown, 2007). Researchers have observed a need to better understand the role of positive psychological characteristics that may buffer against depression (Seligman, Rashid, & Parks, 2006) and, in particular, how such protective effects might differ across ethnic groups (Burke, Joyner, Czech,
The development of targeted, effective treatments for depression depends on thorough investigation of risk and protective factors and how they might differ across cultural groups.

**Depression**

In lay terms, depression can simply refer to an affective state (as in a depressed mood); whereas for research purposes depression most often indicates the presence of symptoms associated with clinical disorders such as major depressive disorder (MDD) (American Psychiatric Association [APA], 2000). These symptoms include feelings of sadness or worthlessness, loss of energy, agitation, diminished pleasure in previously enjoyable activities, empty or sad mood most of the time, loss of appetite, insomnia, fatigue, inability to concentrate, feelings of worthlessness, and preoccupation with death (APA). According to the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR; APA), an individual diagnosed with MDD must have experienced at least one major depressive episode (MDE) that is not attributable to other psychological or physical disorders, and the individual must have never experienced a manic, mixed, or hypomanic episode (APA). An MDE is characterized by, “at least 2 weeks during which there is either depressed mood or the loss of interest or pleasure in nearly all activities” (APA, p. 349).

Research on depression often uses only MDD as an outcome; however, not all individuals experiencing depressive symptomatology reach the level of MDD. Similar to MDD, elevated depressive symptoms are highly associated with poor outcomes (Kubik, Lytle, Birnbaum, Murray, & Perry, 2003). In a longitudinal study of 1,698 randomly selected high school students, Gotlib, Lewinsohn, and Seeley (1995) found that 33 participants (1.9%) were clinically depressed, and 283 (16.7%) displayed elevated depressive symptoms but fell short of the
threshold for diagnosis of MDD. Both groups were significantly more likely than nondepressed participants to experience negative psychosocial outcomes such as poor social support and low self-esteem. Additionally, over the course of the study both groups were at greater risk for developing other psychological disorders such as anxiety. Statistical comparisons of the two groups revealed significant differences on only 4 of 20 psychosocial outcomes assessed, suggesting that both clinical and subclinical levels of depression contribute to risk for poor psychosocial functioning (Gotlib et al., 1995). Because elevated but subthreshold depressive symptoms and MDD share similar symptoms and correlates, a comprehensive literature review may consider studies in both areas to develop an overall understanding of depression (Vredenburg, Flett, & Krames, 1993).

**Epidemiology of Depression**

In the United States, MDD is one of the most frequently occurring mental disorders (Kessler et al., 2003). At least four large epidemiological studies using face-to-face structured interviews to collect data on the prevalence of depression in the United States have been conducted in the past 30 years: The Epidemiological Catchment Area (ECA) study, The National Comorbidity Study (NCS), the National Comorbidity Study-Revised (NCS-R), and the National Epidemiological Survey on Alcoholism and Related Conditions (NESARC) (Hasin et al., 2005). The ECA study was conducted between 1980 and 1984, and it found the lifetime and 12-month prevalence of MDD to be approximately 4.5% and 2.5% respectively (Kessler et al.). Lifetime prevalence refers to individuals who have experienced MDD at least once in their lives, and 12-month prevalence refers to the percentage of people experiencing MDD in the previous year. Eight years after completion of the ECA study, the NCS found MDD prevalence to be considerably higher at 14.9% for lifetime and 8.6% for the previous 12 months (Kessler et al).
The ECA used the National Institute of Mental Health’s Diagnostic Interview Schedule (DIS), whereas the NCS used an expanded version of the DIS, the Composite International Diagnostic Interview. Previous research has found general agreement between these two scales (Semler et al., 1987), indicating that other methodological variables such as interviewer experience or sampling (Semler et al.) or prevalence changes over time may explain discrepant findings.

Conducted from 2001-2002, the NCS-R found similar results to the original NCS, with lifetime and 12-month prevalence estimates of MDD at 16.2% and 6.6% respectively (Kessler et al.). The NESARC was conducted during the same time frame as the NCS-R by a different research group, and it found lifetime and 12-month estimates of 13.2% and 5.3% respectively, which was more consistent with the relatively high prevalence found in the national comorbidity studies as opposed to the original ECA study (Hasin et al.). Prevalence estimates for individuals attending college have been tracked with the American College Health Assessment study, which found the lifetime prevalence of MDD to be 14.5% in 2006 (ACHA, 2006). This rate has grown substantially from 10.3% in 2000 (ACHA, 2000). Increased risk for depression may be reflective of a cohort effect rather than an effect unique to only young adults who attend college; evidence suggests that depression rates do not differ significantly between college and noncollege 18-24 year olds (Chadwick, 1999).

Ethnic Differences in Depression

Some studies suggest that minority groups in the United States are at increased risk for depression (Jones-Webb & Snowden, 1993; Wight et al., 2005), while other studies indicate lower prevalence among minority groups (Breslau et al., 2006; Hasin et al., 2005). When depression is operationalized as MDD, ethnic minorities tend to not differ or to be at decreased risk compared to Whites (Breslau et al., 2006; Hasin et al., 2005; Mendelson, Rehkopf, &
Kubzansky, 2008). Conversely, when depression is operationalized as elevated depressive symptomology, ethnic minorities tend to be at increased risk (Cuella & Roberts, 1997; Locke, Newcomb, Duclos, & Goodyear, 2007; Riolo, Nguyen, Greden, & King, 2005; Mendelson, Rehkopf, & Kubzansky, 2008); however, not all studies agree (Saluja et al., 2004; Mendelson et al., 2008).

The NCS-R, conducted from 2001-2002, used face-to-face interviews of a nationally representative sample of 5,554 participants to assess the prevalence of mental disorders in the United States based upon DSM-IV criteria (Breslau et al., 2006). Data from the NCS-R showed that Blacks regardless of age and younger (age ≤ 43 years) but not older (age >43 years) Hispanics had significantly lower risk for MDD than Whites. Using a larger sample size (N = 43,093), the NESARC found the lifetime prevalence of MDD to be 8.9% for Blacks, 9.6% for Hispanics, 8.8% for Asian Americans, 19.2% for Native Americans, and 14.6% for Whites (Hasin et al., 2005). These results, like those from the NCS-R, indicate lower risk of depression for Blacks, Hispanics, and Asian Americans in comparison with Whites. Some studies, however, do suggest that Blacks and Hispanics are at higher risk for depressive symptoms than Whites as opposed to actual diagnosis of MDD (Jones-Webb & Snowden, 1993; Mendelson et al., 2008; Ramos, 2005). Increased risk for depressive symptomology in Blacks and Hispanics may be partially explained by risk factors associated with lower socioeconomic status (SES) such as financial pressure and disparate access to resources as well as problems associated with being in a minority group like feeling pressure to acculturate to mainstream society (Jones-Webb & Snowden; Oquendo et al., 2004; Ramos; Wight et al., 2005). Nonetheless, even when examining individual and contextual differences such as the ethnic status of the surrounding community researchers have been unable to pinpoint all of the factors associated with being a member of a
minority group that may explain the relationship between minority status and depressive symptoms, leading some to speculate that membership in an ethnic group that is in the minority may be “fundamentally related to depressive symptoms” via differences in feelings of power, prestige, and connectedness (Wight et al., p. 2081).

In conclusion, non-White groups in the United States may be at decreased risk for MDD compared with Whites, but a greater proportion of individuals within those minority groups may consistently experience elevated depressive symptomology, and when they do suffer from MDD, it is more severe and persistent than it is for Whites (Breslau et al., 2006; Williams et al., 2007).

**Etiological Influences on Depression**

Etiological models of depression vary considerably. Some are exclusive in the factors that they propose lead to depression yet increasingly more integrate an eclectic selection of biological, environmental, psychological, and religious or spiritual characteristics that are thought to interact to contribute to risk or protection from depression (Zuess, 2003).

**Biological Influences.** Potential biological influences on depression include genetic structure (Kendler, Walters, Truett, & Heath, 1994; Lyons et al., 1998; Zubenko et al. 2002, 2003), problematic hormonal and endocrine fluctuation such as dysregulation of the hypothalamic-pituitary-adrenal axis (Bloch, Daly, & Rubinow, 2003; Ehlert, Gaab, & Heinrichs, 2001), and neurotransmitter imbalances (Fava & Kendler, 2000). However, it can be difficult to determine direction of causality between biological correlates and depression as well as account for potential confounds such as life stress that may influence both biology and depression (Wyatt & Midkiff, 2006). Assessing biological factors requires special instrumentation or research design, and such factors are, therefore, outside of the scope of this study. For a comprehensive
list of biological and other factors associated with depression, please see Parker and Roy (2001) and Vink, Aartsen, and Schoevers (2008).

Life Events. Life stressors, particularly negative life events, are significantly positively associated with depressive symptoms, and depressed individuals report substantially more life stress in the previous year than nondepressed individuals (Kessler, 1997). Although positive life events can contribute to overall life stress, which may increase risk for depression, life events considered to be negative typically have a stronger association with depression (Holmes & Rahe, 1967; Kessler, 1997). Common life stressors that can have a significant impact on the etiology of depression include interpersonal relationships (Barnett & Gotlib, 1988), socioeconomic status (Hudson, 2005), and life events (Kendler et al., 1999). Negative and potentially traumatic life events include trouble with a boss, death of a family member, pregnancy, troubles with the law, major change in financial status, and separation from a mate (Holmes & Rahe, 1967). Results from a year-long twin study suggest that negative life events account for the majority of variance in depression (Kendler et al.); however, potential bidirectionality prohibits such a strong claim because it is difficult to determine the extent to which psychopathology increases the experience and recall of negative life events (Kessler, 1997). Nonetheless, research indicates that negative life events often precipitate the onset of depression (Kendler et al.).

Religion and Spirituality. Religiosity and spirituality refer to a multidimensional set of psychological and social factors such as systems of belief, values, rituals, interpersonal relationships, and social norms (King & Dein, 1998). Because of their ubiquity in nearly every human culture and their unique role in the drive for purpose and meaning, religiosity and spirituality are often considered as distinct from other psychological or social factors (Zuess, 2003). The multifaceted nature of religiosity and spirituality has created challenges in identifying
their role in the development of depression that have resulted in conflicting outcomes (George, Larson, Koenig, & McCullough, 2000; McCullough & Larson, 1999). Therefore, it is necessary to specify which dimension is being considered (Mofidi et al., 2006). For example, the religious social support received during times of stress may protect an individual from the development of depressive symptoms, but blaming God for negative life situations may increase risk (Smith, McCullough, & Poll, 2003). Beliefs about God and a higher purpose in life may protect from feelings of hopelessness, which in turn reduces risk for depression (Murphy et al., 2000).

**Individual Differences.** Psychological characteristics that may play a role in the development of depression include personality traits (Bagby, Quilty, & Ryder, 2008), self-esteem and self-concept (Orth, Robins, & Roberts, 2008; Sheppes, Meiran, Schechtman, & Shahar, 2008), cognitions and beliefs (Beck, 1963; Kleinman, 2004), and the manner in which an individual assigns causation and meaning to life events (Abramson, Metalsky, & Alloy, 1989). Although the potential psychological variables involved in depression are vast, this project emphasizes the role of cognitive processes, particularly those which may be associated with decreased risk for depressive symptoms. Two influential theories highlighting the significance of cognition in affecting depressive symptoms include Abramson’s learned helplessness model, which later became known as the hopelessness model (Abramson, Seligman, & Teasdale, 1978), and Beck’s (1963) cognitive theory. The learned helplessness and hopelessness models emphasize the psychological effects of uncontrollable stressful situations. The extent to which the stressful situation confers risk for depression may depend on a person’s attributional style, which indicates how individuals explain the causes of their stressors. Individuals who believe prior stressful life events are caused by internal (their fault), stable (will endure), and global (affects many situations) factors are said to have a pessimistic explanatory style. Conversely,
those with optimistic explanatory style attribute stressful situations to external, transient, and specific factors (Abramson et al.). Empirical support indicates that pessimistic explanatory style is associated with increased depressive symptomology and optimistic explanatory style is associated with lower risk of depression (Abramson et al., 1989; Puskar, Sereika, Lamb, Tusaie-Mumford, & McGuinness 1999).

Over 40 years ago, Aaron Beck introduced his theory of depression that posits that depressed individuals demonstrate a triad of pervasive cognitive patterns: negative views of one’s self, the world, and the future (Beck, 2002). Beck’s approach emphasizes the etiological role of dysfunctional beliefs that cause individuals to have unrealistic expectations about their environments. These underlying dysfunctional beliefs are thought to be relatively latent until activated by a specific stressor that targets the individuals’ cognitive susceptibility (Haaga, Dyck, & Ernst, 1991). Once activated, the beliefs lead to distorted thinking that directly negatively affects mood and predisposes the individual to selectively perceive environmental cues that concur with the distorted cognitions. The process can quickly become a vicious cycle, leading to increased depressive symptomology (Beck, 1963). Empirical investigations indicate support for the main components of Beck’s cognitive theory such as the negative triad (Haaga et al.). Grigsby (1994) has extended this support to college students, and Hammack (2003) supported its main components among Blacks.

Beck’s model of depression and Abramson’s learned helplessness model are, however, limited in their ability to fully explain causes of depression; therefore, they incorporate other etiological factors into an integrated diathesis-stress model (Abramson et al., 1989; Haaga et al., 1991). Diathesis-stress models take into consideration the possibility that different etiological mechanisms contributing to depression may not be simply additive; they can interact in unique
ways. Variables that make a person more susceptible to depression such as maladaptive cognitive patterns are referred to as diatheses, and those that precipitate depression such as acute life events are stressors. The use of diathesis-stress models increases the flexibility and applicability of cognitive models of depression by allowing researchers to take into consideration other variables that may play a role in etiology (Abramson et al.; Haaga et al., 1991). Recently, increasing attention has been given to more positive variables that may prevent depression in spite of life stressors (Joseph & Linley, 2005; Schueller & Seligman, 2008; Seligman & Csikszentmihalyi, 2000). More positive characteristics such as hope and optimism may directly lead to decreased depressive symptoms as well as mitigate or undermine the negative influence of diathesis variables such as hopelessness and pessimism (Fredrickson & Losada, 2005; Seligman et al., 2005). According to diathesis-stress models of depression, even if cognitive or behavioral vulnerabilities for depression exist, symptoms will not surface unless sufficient stress from outside the person is present. Therefore, one would expect the differences between individuals with and without positive or protective characteristics to be relatively small at low levels of life stress and increasingly larger as life stress increases. Indeed, the mitigating effects of hope and optimism on depressive symptoms have been found to be stronger among individuals who have experienced elevated levels of life stress versus those who reported little life stress (Chang, 1996 & 2002; Reff, Kwon, & Campbell, 2005; Scheier & Carver, 1985; Snyder et al., 1991). A similar pattern has been found for measures of religiosity and religious coping particularly when life stress is judged to be severe (Bjorck & Thurman, 2007; Pargament, Smith, Koenig, & Perez, 1998; Smith et al., 2003; Walsh et al., 2002).
Psychological and Religious or Spiritual Moderators of Depression

Negative life events increase risk for depressive symptoms (Kendler et al., 1999); however, the potential deleterious impact of a given event may vary between individuals based, in part, upon their unique set of psychological and religious or spiritual characteristics (Zuess, 2003). Such individual-level characteristics that might influence the association between negative life events and depressive symptoms are referred to as moderators (Baron & Kenny, 1986). Studying variables that may buffer or attenuate the relationship between negative life events and depressive symptoms may give insight into how depression develops and is manifested.

Trait Hope

The concept of hope has been around for millennia. In an ancient Greek myth, Pandora inadvertently released all kinds of creatures into the world. Almost all of them were types of evil and disease except for the creature hope that promised to make the burdens that humans experience less troublesome as they pursue life goals (Smith, 1983). The construct of hope was neglected in scientific research for many years, possibly because of disagreement about operationalization and assessment (Snyder et al., 1991). Generally, researchers agreed that hopefulness referred to an overall perception that a person can achieve his or her goals, but it was not until Snyder et al. empirically investigated the construct that a unified definition of hope was developed.

According to Snyder’s model, trait hope is differentiated from state-hope, with the former considered a more enduring cognitive disposition and the latter a context-dependent appraisal. Trait hope is a cognitive-motivational construct composed of two distinct yet related elements that influence one’s perception that his or her goals can be achieved. Agency refers to a “…sense
of successful determination in meeting goals in the past, present, and the future,” and pathways refers to a “…sense of being able to generate successful plans to meet goals” (Snyder et al., 1991, p. 570). People with high agency believe that they have the personal efficacy required to achieve goals, and people with high pathways perceive that they have the resources necessary to achieve goals. Adequate amounts of both must be present for individuals to believe that they can and will achieve their goals. Hence, they are both necessary, but neither is sufficient.

The essential aspects of Snyder’s hope theory have received support from the literature. Chang and DeSimone (2001) found that the scores obtained on Snyder’s Trait Hope Scale (THS) (Snyder et al., 1991) were predictive of higher levels of engaged coping behavior and negatively associated with disengaged coping behavior, which fits well with trait hope’s theoretical relationship to goal attainment. Another study found amount of trait hope to be positively related to level of adaptive problem solving behavior (Chang, 1998b). These correlates of hope may serve to buffer against psychopathology by enabling individuals who experience life stressors to effectively deal with them.

Trait Hope and Depression. Using a university sample of 241 students, Snyder et al. (1991) found that the THS was significantly negatively correlated (-.42, p<.005) with the Beck Depression Inventory. No data regarding ethnic background were available for the study, which limits its generalizability. Using data collected from 341 college students, Chang and DeSimone (2001) found a negative relationship between the THS and BDI even when controlling for the effects of coping style and secondary appraisals. Using a sample of 159 undergraduate students, Kwon (2000) tested the hypothesis that hope would only predict decreased depressive symptomology for individuals with adaptive defense styles, but he found that trait hope was associated with lower levels of depression regardless of an individual’s defense style. A
A longitudinal study of 522 college students found that higher THS scores at baseline were predictive of decreased levels of depression 1 month and 2 months later and that THS scores were unaffected at 1 and 2 month intervals by prior depression scores, supporting hope’s dispositional nature (Arnau, Rosen, Finch, Rhudy, & Fortunato, 2007). The relationship, however, was explained by the agency rather than the pathways component, which conflicts with the assertion made by Snyder et al. that both aspects of trait hope contribute unique variance to the activation of hope.

**Trait Hope and Negative Life Events.** Levels of hope have been found to moderate the relationship between life stressors and psychological outcomes (Reff, Kwon, & Campbell, 2005; Snyder et al., 1991). In one study, after collecting baseline THS scores students were given a negative exam grade; individuals who were high in trait hope responded to the negative grade by demonstrating higher goal-directed determination, whereas those low in trait hope demonstrated lower goal-directed determination (Snyder et al.). In a similar study, after participants were assessed for trait hope and depressive symptoms, they were asked to indicate what score they would consider a failure on an upcoming exam. After taking the exam, those who scored at or below their failure range and were low in trait hope experienced an increase in depressive symptoms, whereas those high in hope were protected from the negative effect of failing to reach their goal, indicating that trait hope may buffer the negative effect of academic stress on depressive symptoms (Reff et al.).

**Trait Hope and Ethnicity.** To date, little research has examined how trait hope may differ across ethnic groups. In a diverse college sample of 374 students, Chang and Banks (2007) found that Hispanics scored higher on agency than Whites and Blacks but not Asian Americans. On the pathways component, Blacks and Hispanics scored significantly higher than Whites and Asian
Americans. These different levels of trait hope contradicted predictions, as the authors expected ethnic minorities, because of their relatively greater exposure to psychosocial stressors, to score lower than Whites. The higher rates of trait hope in Blacks and Hispanics may be due to a selection bias because ethnic minorities who are enrolled in college may be those who are likely to have more adaptive problem solving skills (Chang & Banks). Although it is not clear from the study why these ethnic differences were found, it highlights the fact that the causes and effects of trait hope may vary as a function of one’s ethnic identity (Chang & Banks).

Dispositional Optimism

In a broad sense, dispositional optimism is a general expectancy that good things will occur in the future (Scheier & Carver, 1985). The foundation for the theoretical framework of dispositional optimism that is widely used today stems from Carver and Scheier’s (1982) description of control theory and their model of behavioral self-regulation. Control theory posits that humans perceive their present condition through a feedback system and then compare it to a standard reference. If a discrepancy exists between their present condition and the standard, they activate behavior in order to draw closer to the standard of reference; however, they will only do so if they have an expectation of success (Carver & Scheier). In other words, humans only self-regulate when they believe that their efforts will succeed. Success can be very specific such as receiving a high grade on one exam or general such as becoming a successful person. Scheier and Carver’s conceptualization of optimism emphasizes more general expectancies that are less susceptible to change when environmental circumstances fluctuate. Therefore, in this sense, optimism is considered a trait. The Life Orientation Test (LOT) (Scheier & Carver) and the Life Orientation Test - Revised (LOT-R) (Scheier, Carver, & Bridges, 1994) were designed to measure optimism as a trait. Supporting optimism’s dispositional nature, Scheier et al. found a
test-retest reliability coefficient of $r = .79$ across 28 months in a sample of 2,055 college students using the LOT-R. In summary, optimistic individuals are more likely to consistently exhibit behaviors that stem from positive, general expectancies about the future even when they are confronted with life stressors that may be perceived as threats to achieving certain general goals (Scheier et al., 1994).

*Dispositional Optimism and Depression.* Scheier et al. (1994) administered the LOT-R and a variant of the BDI (a shorter version with 13 questions) to 2,055 college students between 1988 and 1990. They found that the LOT-R was significantly negatively correlated ($r = -.42$; $p < .001$) with the BDI short form. The relationship between the LOT-R and BDI short form was still significant after controlling for the effects of self-mastery, trait anxiety, self-esteem, or neuroticism. In a meta-analysis of the LOT, Andersson (1996) concluded that the relationship between the LOT and BDI is highly reliable. He found that the LOT and BDI had been correlated in five studies, and the weighted combined $r$ was -.45. A recent study found that the LOT-R and the BDI-II were significantly negatively correlated ($r = -.53$) in a sample of college students (Hirsch, Wolford, Lalonde, Brunk, & Parker-Morris, 2007).

*Dispositional Optimism and Negative Life Events.* Scheier and Carver (1985) conducted a longitudinal study in which college students completed the LOT and a physical symptoms checklist 4 weeks before the end of the semester (a potentially stressful time) and again at the end of the semester. Scores reflecting higher levels of dispositional optimism at Time 1 were significantly predictive of fewer subjective physical complaints at Time 2 even when controlling for Time 1 differences in physical symptoms. These results indicate that higher dispositional optimism may protect individuals who experience life stress from physical problems (Scheier & Carver). In samples of 388 college students, 340 younger adults, and 316 older adults, Chang
(1998a, 2002) found that individuals who perceived high levels of life stress yet scored high in dispositional optimism reported significantly fewer depressive symptoms than those with high life stress and low optimism. These results support dispositional optimism as a moderator of life stress and depressive symptoms. A recent study found that dispositional optimism moderated the relationship between negative life events and suicidal thoughts and behaviors in a college sample of 138 students (Hirsch, Wolford, et al., 2007). Negative life events predicted increased suicidal ideation and attempts, but higher levels of optimism buffered the relationship.

Styles of coping with negative life situations are significantly related to levels of dispositional optimism (Scheier, Weintraub, & Carver, 1986). In a sample of 291 undergraduates, higher levels of optimism predicted more adaptive coping strategies such as problem focused coping and positive reinterpretation of events, and lower levels of optimism predicted maladaptive coping strategies like disengagement and emotion focused coping. Optimists’ more adaptive responses to adversity may limit the negative effects of stressful life events (Scheier, Weintraub, & Carver, 1986). Additionally, Khoo and Bishop (1996) suggest that optimists may simply experience less subjective stress than pessimists even in the same circumstances, and this difference may be due to the cognitive biases of pessimists to recognize and dwell on negative components of a situation.

Increased optimism, however, may not always predict more positive outcomes. Elevated optimism may decrease one’s sense of vulnerability to injury or disease and lead to risky behavior (Gerrard, Gibbons, & Bushman, 1996; Weinstein, 1980) or poor health outcomes. For instance, Hirsch, Wolford, et al. (2007) found that although the relationship between negative life events and suicide ideation was weakened in individuals with high versus low levels of
optimism, the association was exacerbated for individuals with especially high levels of optimism.

**Optimism and Ethnicity.** Some evidence suggests that the effects of optimism may differ across ethnic groups (Hardin & Leong, 2005). Chang (1996) conducted a study of Asian Americans and Whites and found that levels of optimism were not significantly different between the two ethnicities; however, optimism significantly predicted physical symptoms in Asian Americans but not Whites (Chang). Using a variant of the LOT (extended scale including 20 questions), Hardin and Leong (2005) found that optimism and pessimism mediated the relationship between undesired self-discrepancy and depressive symptoms differently in Asian Americans than Whites, with pessimism mediating more of the effect in Whites than Asian Americans. More research is necessary to understand how levels and functions of optimism may vary across ethnic groups (Chambers, 2006).

**Religiosity and Spirituality**

The relationship between religion and the field of psychology has been marked with ambivalence. Religion was treated as more of a nuisance or detriment by researchers like Sigmund Freud (Koenig & Larson, 2001) and Albert Ellis, who implied that religious tendencies are at the core of psychopathology (Dryden & Ellis, 2001). Yet, increasing numbers of academic researchers have begun to specialize in the study of the positive and negative effects of religion and spirituality on psychological and physical variables such as depression or mortality rates (King & Crowther, 2004; McCullough & Larson, 1999). In research the constructs of religiosity and spirituality have often been interchanged, but evidence demonstrates that in practice people consider them different constructs (Zinnbauer et al., 1997). Both religiosity and spirituality can refer to the search for a higher power (George et al., 2000), but religiosity is associated more
with institutions and traditions, whereas spirituality emphasizes personal experiences with the supernatural (Zinnbauer et al.). Members of religious organizations who participate in organizational traditions may be considered religious, but this does not guarantee that members actively pursue knowledge of or experience with a higher power (George et al., 2000). Findings from surveyed members of religious and social groups suggest that religiousness may be divided into two components: 1) personal beliefs about God or a higher power and 2) organizational beliefs and practices such as church attendance and commitment to belief systems. Definitions of spirituality also included belief in God or a higher power, but they emphasize broader experiential terms such as having a relationship with God or a connection with a supernatural force (Zinnbauer et al.).

Research on religiosity and spirituality has advanced in recent decades as investigators have focused on which dimensions of religion and spirituality are associated with physical and mental health outcomes (Neff, 2006; Zinnbauer et al., 1997). A panel convened by the National Institute of Healthcare Research identified 10 domains of religiosity and spirituality that have been studied in empirical research: 1) Preference or affiliation, 2) History, 3) Participation, 4) Private Practices, 5) Support, 6) Coping, 7) Beliefs and values, 8) Commitment, 9) Motivation for regulating and reconciling relationships, and 10) Experiences (George et al., 2000).

**Religiosity, Spirituality, and Depression.** A review of the literature on the association between religion and depression revealed that two thirds of relevant observational (60/93) and prospective (15/22) studies found a significantly negative relationship between levels of religion and depression (Koenig & Larson, 2001). Because of the lack of consensus on the operational definition of religiosity, a wide variety of religious measures were represented in the study. A recent meta-analysis found that the relationship between religion and depressive symptoms
across 147 studies (N= 98,975) was relatively weak ($r = -.10; \ p = .003$) (Smith et al., 2003). When religiosity was defined in terms of intrinsic motivation, which is the motivation to engage in religious practices that stems from actual belief in a higher power or force, the correlation strengthened ($r = -.18; \ p<.001$). The relationship between measures of spirituality and depression is less certain (Zinnbauer et al., 1997). Self-perception of one’s level of spirituality may be related to higher depressive symptoms (Baetz et al., 2004), but some evidence also suggests that higher spirituality is associated with less depression (George et al., 2000; Mofidi et al., 2007).

The direction of influence between religiosity or spirituality and depression is still not clear. Religious or spiritual practices may have an ameliorative effect on depressive symptomology. Conversely, individuals prone to depression may be more or less likely to seek out religious or spiritual experiences (Smith et al., 2003). Smith et al. found that the most researched hypothesis is that religiosity buffers depressive symptoms. There are a variety of reasons that religiosity is suspected to have this effect. Religious individuals may be less likely to abuse substances, may receive social support from their congregation, may have an increased activity level, and may be more likely to experience high-quality relationships especially in marriage (Smith et al.). From a cognitive perspective, religious and spiritual beliefs may counter dysfunctional hopeless beliefs by providing a sense of eternal meaning and higher purpose (Murphy et al., 2000).

Religiosity, Spirituality, and Negative Life Events. The relationship that religiosity or spirituality have with depression may be strongest in times of great distress, suggesting an interaction effect (Smith et al., 2003; Walsh, King, Jones, Tookman, & Blizard, 2002). In a literature review, Smith et al. found support for religiosity as a buffer against the effect of stress on depression especially when the stress was judged to be severe. For example, one study found
that the buffering effect of religiosity was strongest in individuals with cancer versus those with a lesser or no illness (Musick et al., 1998). A prospective study of the close family and friends of dying patients in London found that those with higher reported spirituality completed the grieving process sooner than those with low spirituality, supporting the idea that spirituality may buffer against the potentially negative effects of serious stressors (Walsh et al.).

In response to stressful situations religious or spiritual individuals may employ beneficial coping strategies that subsequently protect them from psychological distress (Bjorck & Thurman, 2007). Using positive religious coping involves searching for a religious or spiritual understanding of a stressful situation and maintaining a secure connection with God in spite of distress. Negative religious coping may involve denial of meaning, feeling an insecure relationship with God, and adopting a threatening view of the world and may exacerbate symptomology related to life stress (Pargament, Koenig, & Perez, 2000). Religious coping strategies have been found to moderate the relationship between acute stressors and psychological distress as well as the aggregate impact of life stress and psychological distress (Bjorck & Thurman, 2007).

Religiosity, Spirituality, Ethnicity, and Depression. The associations between religiosity or spirituality and depression may differ across ethnic groups. The negative relationship between religiosity and depression may be stronger in Blacks than Whites (McCullough & Larson, 1999). In a study of community-dwelling adults living with cancer, religiosity buffered depressive symptoms, and there was a significantly stronger effect in Blacks than in Whites (Musick et al., 1998). Most research investigating how ethnicity affects the relationship between religiosity or spirituality and depression has, however, been unable to find a moderating effect. In a meta-analysis of 147 studies, ethnicity did not appear to moderate the relationship between depression
and religiosity, but because of limitations comparisons were only conducted among Blacks, American Whites, and Northern Europeans (Smith et al., 2003). A study involving a community-based sample of 630 adults 45 years and older found that ethnicity did not moderate the relationship between spiritual experiences and depressive symptoms; however, this study only assessed Blacks and Whites (Mofidi et al. 2006). A recent study involving 615 Black, White, Hispanic, and Asian American adolescents of diverse religious backgrounds did not find a moderating effect of ethnicity in the relationship between various daily spiritual experiences and BDI scores (Desrosiers & Miller, 2007). In summary, some evidence suggests that religiosity and spirituality affect depression regardless of ethnicity, but more research needs to be done.

**Statement of the Problem**

Depression is a serious and potentially growing problem among college students. Negative life events are predictive of higher depression; however, not everyone who experiences negative events becomes depressed. Psychological factors such as trait hope, optimism, and religiosity and spirituality may buffer against depressive symptomology even in individuals who have experienced elevated life stress. Little is known about how these factors vary across different ethnic groups. This study examines the role of trait hope, optimism, and religiosity and spirituality in the relationship between negative life events and depressive symptoms in an ethnically diverse college sample. To date, such a study has not been published.

**Hypotheses**

1. The number of negative life events reported on the LES are significantly positively associated with the number and degree of depressive symptoms reported on the BDI-II.
2. The levels of trait hope reported on the THS and dispositional optimism reported on the LOT-R are significantly negatively associated with scores on the BDI-II.
3. The levels of religious involvement and belief and daily spiritual experiences reported on the BMMRS are significantly negatively associated with scores on the BDI-II.
4. Positive religious coping as measured with the BMMRS is significantly negatively associated with scores on the BDI-II, while negative religious coping as measured with the BMMRS is significantly positively associated scores on the BDI-II.
5. Scores on the THS, LOT-R, and daily spiritual experiences scale, organizational religiousness scale, private religious practices scale, positive religious coping scale, and negative religious coping scale moderate the relationship between scores on the LES and BDI-II.
6. Differences in scores on the LES, THS, LOT-R, BMMRS, and BDI-II are explored among ethnic groups.
7. Ethnic differences in the moderating effects of the THS, LOT-R, and daily spiritual experiences scale, organizational religiousness scale, private religious practices scale, positive religious coping scale, and negative religious coping scale, in the relationship between scores on the LES and BDI-II are explored by conducting ethnically-stratified moderator analyses.
CHAPTER 2

METHODS

Procedures

Participants in this study were recruited from an urban, Northeastern university in the United States. The sample consisted of 386 students, 267 females and 119 males. After obtaining IRB approval, undergraduate students in an introductory psychology course who were 18 years of age or older were invited to participate in a study examining the relationship between stress, resiliency, and psychological functioning in college undergraduates. Students who agreed to participate completed a series of questionnaires assessing mood, levels of depression, ethnic identification, negative life events, spirituality, positive psychological characteristics including hope and optimism, and demographic characteristics in a group setting. After review by a research assistant, any student identified as at-risk for suicide was scheduled to meet with the principal investigator for a clinical assessment. All participating students received 2 credits toward their course research requirement. All introductory psychology students who volunteered were selected for participation. Data collection took place during the spring and fall semesters of 2005. The present study is a secondary analysis of data gathered for a separate project.

Measures

Beck Depression Inventory-II (BDI-II).

The BDI-II (Beck, Steer, Ball, & Ranieri, 1996) is a 21-item self-report measure of the presence and severity of cognitive, affective, somatic, and motivational symptoms of depression. Beck et al. found evidence in a college sample for a two-factor structure of the BDI-II composed of cognitive-affective and somatic factors, and other researchers have found evidence for various two and three factor solutions emphasizing negative attitudes, performance difficulty, and
somatic dimensions (Arnau, Meagher, Norris, & Bramson, 2001; Carmody, 2005; Storch, Roberti, & Roth, 2004). The BDI-II is scored using a 4-point Likert scale ranging from 0-3, with 0 representing the absence of a symptom and 3 representing severe presence of a symptom; however, two items (16 and 18) allow the participant to select 1a or 1b, 2a or 2b, and 3a or 3b in order to determine if sleep or appetite has increased or decreased. Items are summed to derive a total depressive symptoms score. Cutoff scores recommended by Beck et al. (1996) indicate that minimal depressive symptoms range from 0-13, mild depressive symptoms range from 14-19, moderate depressive symptoms range from 20-28, and severe depressive symptoms range from 29-63. Running a series of analyses testing for optimal sensitivity and specificity, Dozois, Dobson and Ahnberg (1998) recommended the following cutoffs for undergraduate students: nondepressed = 0-12, dysphoric = 13-19, dysphoric or depressed = 20-63. The BDI-II predicted major depressive disorder in a clinical sample and a collegiate sample (Beck et al.) and has exhibited adequate test-retest reliability using Pearson’s Correlation coefficient ($r = .93$ in Beck et al., 1996; $r = .92$ in Carmody, 2005). Using Cronbach’s alpha, a measure of how well the items of a construct reflect an underlying factor (Cronbach, 1951), the BDI-II demonstrated good internal consistency ($\alpha = .91$) in a sample of 1,022 undergraduates, and corrected item-total correlations, calculations of an individual item’s relationship with the sum of the other items in the scale, ranged from .18 (suicidal thoughts) to .88 (changes in sleep; Dozois et al., 1998). Convergent validity of the BDI-II has been supported with significant relationships with the State-Trait Anxiety Inventory depression ($r = .77$) and anxiety ($r = .70$) factors in a sample of 414 undergraduates (Storch et al., 2004). In the current study $\alpha = .88$. For the entire sample, the item-total correlations suggest good internal consistency, with $r$ ranging from .41 to .64, except for the
item “loss of interest in sex” \( r = .23 \), which has been found to be less reliable in other college samples as well (Carmody, 2005; Osman et al., 1997). Consistent with previous research (e.g., Nolen-Hoeksema & Girdus, 1994), females in the present sample reported significantly more depressive symptoms than males \[ \text{Mean BDI-II (SD) = 14.44 (9.22) and 9.20 (6.30), respectively, \( p<.001 \).} \]

**Life Events Scale (LES).**

The LES (Tomoda, 1997) is a checklist of 43 positive and negative life events that college students may be more likely than others to experience. Respondents are asked to check all life events that they experienced at least once in the previous 12 months. The LES includes items such as, “I had financial difficulties” and “I made a financial profit.” Items assessing positive and negative life events can be summed separately to create positive and negative subscales, and all 43 items can be summed to determine an overall life adjustment score. Holmes and Rahe (1967) found that the social readjustment resulting from experiencing both positive and negative life events can lead to higher life stress that may increase risk of stress-related problems. The current study, however, focuses only on negative and potentially traumatic life events that research suggests are more strongly associated with increased depression than positive, yet stressful, life events (Kendler et al., 1999). There are 23 items from the LES that assess negative and potentially traumatic life experiences. No gender differences were found in mean number of reported negative life events.

**Trait Hope Scale (THS).**

The THS (Snyder et al., 1991) is a 12-item scale designed to measure dispositional hope. This scale contrasts with the state hope scale later developed by Snyder and colleagues in that it conceptualizes hope as an enduring trait rather than as dependent upon situations (Snyder et al.,
The THS is composed of two factors - agency assesses one’s belief in his or her own ability to achieve goals and pathways assesses the extent to which one has the necessary resources to achieve his or her goals (Roesch & Vaughn, 2006; Snyder et al., 1991). Items 2, 9, 10, and 12 comprise the agency component, items 1, 4, 6, and 8 comprise the pathways component, and the other items are fillers. In this study, the THS was scored using a 4-point Likert scale allowing a possible range of 8-32 with higher values indicating stronger hope. The THS has been shown to be negatively related to depression; for example, Snyder et al. (1991) found a significant negative correlation between the THS and the original BDI ($r = -.42$). Snyder et al. (1991) found convergent validity support for the THS, in a pair of studies, with significant positive associations with the Life Orientation Test ($r = .50$ & .60) and divergent validity support, in a single study, with a negative association with the Beck Hopelessness Scale ($r = -.51$). In six college samples and two outpatient samples of people seeking psychological treatment, the THS has demonstrated adequate internal consistency ($\alpha = .63-.84$) and test-retest reliability ($r = .73-.85$; Snyder et al.). In the current study, $\alpha = .81$. The corrected item-total correlations suggest adequate internal consistency, with $r$ ranging from .34 (“I can think of many ways to get out of a jam”) to .61 (“Even when others get discouraged, I know I can find a way to solve the problem”). In the current sample, males ($M = 25.50$, $SD = 3.69$) scored significantly higher than females ($M = 24.33$, $SD = 3.75$) on reported trait hope, ($p<.05$).

**Life Orientation Test-Revised. (LOT-R)**

Scheier and Carver (1985) developed the Life Orientation Test (LOT), which was later reduced from 12 to 10 items by Scheier, Carver, and Bridges (1994). The LOT-R measures dispositional optimism via general outcome expectancies of the respondent. It consists of three positively worded, three negatively worded, and four filler items and requires participants to
indicate how strongly they agree with each statement using a 5-point Likert scale. For scoring, items 1, 4, and 10 are reverse-scored and added to items 3, 7, and 9 to create a total score, ranging from 0-24, with higher values indicating greater optimism. In a German epidemiological study (n = 46,133), the optimism subfactor comprised of the 3 positively worded items and the pessimism subfactor comprised of the 3 negatively worded items significantly predicted depression when both were included in a regression analysis (βs = -.47 and .24, respectively) (Herzberg, Glaesmer, & Hoyer, 2006). The LOT-R demonstrated acceptable internal consistency (α = .84), and it was associated with decreased depressive symptoms (r = -.53) and hopelessness (r = -.55) in a college sample of 138 students, supporting its discriminant validity (Hirsch, Wolford, et al., 2007). However, in a sample of individuals receiving treatment for opiate dependence in a methadone maintenance program, unacceptable internal consistency was found in Blacks and Hispanics, and 2-week test-retest reliability was low in Blacks, (Hirsch, Britton, & Conner, in press). In the present study, convergent validity was supported by significant modest correlations between the LOT-R and self-mastery (r = .48) and self-esteem (r = .50) in a sample of 4,309 college students (Scheier et al., 1994). For the current sample α = .76. The corrected item-total correlations suggest adequate internal consistency with r ranging from .32 (“In uncertain times, I usually expect the best”) to .61 (“Overall, I expect more good things to happen to me than bad”). In the current sample, females (M = 11.72, SD = 5.18) scored significantly higher (p<.05) than males (M = 10.72, SD = 5.07) on reported dispositional optimism. 

**Brief Multidimensional Measure of Religiousness and Spirituality (BMMRS).**

The BMMRS (Fetzer Institute, 1999) is a 38-item scale designed to assess 11 core dimensions of religiosity and spirituality identified by the Fetzer Institute to be theoretically and empirically related to physical and mental health. The core dimensions include daily spiritual
experiences, values and beliefs, forgiveness, private religious practices, religious and spiritual coping, religious support, religious and spiritual history, commitment, organizational religiousness, religious preference, and self-assessed rankings of global religiosity and spirituality. Scales are intended to be scored and analyzed independently of each other (Fetzer Institute). For the current study, the scales assessing daily spiritual experiences, private religious practices, organizational religiousness, and religious and spiritual coping were used. Daily spiritual experiences items directly assess the impact of religion and spirituality on one’s everyday life; private religious practices refer to a subset of religious behaviors occurring outside of the context of organized religion; organizational religiousness refers to one’s attendance of worship services as well as involvement in other church-related activities; religious coping refers to the religious responses individuals are likely to use in stressful life situations, with positive religious coping tapping into beneficent religious involvement and search for meaning and negative coping reflecting religious struggle and doubting (Fetzer Institute).

Researchers have investigated the psychometric properties of the BMMRS. Internal consistency estimates were derived from a sample of 1,145 participants for daily spiritual experiences ($\alpha = .91$), private religious practices ($\alpha = .72$), organizational religiousness ($\alpha = .82$), positive religious coping ($\alpha = .81$), and negative religious coping ($\alpha = .54$) (Fetzer Institute). In a sample of 122 patients with chronic pain, daily spiritual experiences significantly predicted better mental health status ($r = .27$) as measured by the SF-36, while negative religious coping negatively predicted mental health status ($r = -.31$) (Rippentrop, Altmaier, Chen, Found, & Keffala, 2005).

In the current sample, the internal consistency estimates were obtained. For daily spiritual experiences, $\alpha = .89$, and the corrected item-total correlations suggested good internal
consistency, with $r$ ranging from .54 (“I feel deep inner peace or harmony”) to .79 (“I feel God’s presence”). For private religious practices, $\alpha = .75$, and corrected item-total correlations indicated adequate internal consistency, with $r$ ranging from .46 (“How often do you pray privately in places other than at church of synagogue?”) to .68 (“How often do you read the Bible or other religious literature?”). For organizational religiousness, $\alpha = .72$, and no inter-item correlations were assessed because the scale is composed of only two items. For positive religious coping, $\alpha = .82$, and the corrected item-total correlations suggested adequate internal consistency, with $r$ ranging from .61 (“I think about how my life is part of a larger spiritual force”) to .69 (“I look to God for strength, support, and guidance”). Lastly, for negative religious coping, $\alpha = .65$, and the corrected item-total correlations suggested acceptable internal consistency, with $r$ ranging from .32 (“I try to make sense of the situation and decide what to do without relying on God”) to .56 (“I wonder whether God has abandoned me”). The fairly low internal consistency estimate for negative religious coping is similar to that found by Desrosiers and Miller (2007) in a sample of 615 adolescents and in other research by the Fetzer Institute (1999). No gender differences were found on any of the subscales of the BMMRS.

**Statistical Analyses**

Prior to analysis, a statistical and visual review of the data was conducted to determine the presence of any outliers or missing data and to verify normality of data. None of the statistics for skewness and kurtosis exceeded an absolute value of 1.25 and 3.00, respectively; therefore, data were not transformed (Norris & Aroian, 2004). In the moderator regression models, predictor and moderator variables were centered prior to analyses to reduce multicollinearity (Aiken & West, 1991). Pearson’s product-moment correlation coefficient was used to determine independence of study variables. Excessive multicollinearity was determined by a conservative
coefficient of $r = .70$ or higher (Field, 2005). Only positive religious coping and daily spiritual experiences exceeded this cutoff, but they were not included in regression analyses together.

Specific hypotheses were tested using the following methods:

Hypothesis 1: Pearson’s product moment correlation tested for a positive relationship between scores on the LES and BDI-II.

Hypothesis 2: Pearson’s product moment correlation tested for a negative relationship between the THS and BDI-II as well as the LOT-R and BDI-II.

Hypothesis 3: Pearson’s product moment correlation tested for a positive relationship between the daily spiritual experiences scale and BDI-II, the private religious practices scale and BDI-II, and the organizational religiousness scale and BDI-II.

Hypothesis 4: Pearson’s product moment correlation tested for a positive relationship between the negative religious coping scale and BDI-II, and a negative relationship between the positive religious coping scale and BDI-II.

Hypothesis 5: To test for moderators in the relationship between the LES and BDI-II, hierarchical, multivariate linear regressions were used, according to accepted guidelines (Baron & Kenny, 1986). The THS and LES were centered to reduce multicollinearity (Aiken & West, 1991) and then entered into the first step of a linear regression along with covariates of age and gender; the BDI-II total score was the dependent variable. The interaction term created by multiplying the centered variables of the THS and LES was entered into the second step of the regression. A moderation effect was found if the $\Delta R^2$ value for the second step significantly accounted for additional variance. The same steps were followed in subsequent regressions with the LOT-R, the daily spiritual experiences scale, the private
religious practices scale, the organizational religiousness scale, the positive religious coping scale, and the negative religious coping scale as the moderators.

Hypothesis 6: A series of analysis of variance (ANOVA) tests were used to explore differences in mean levels of the THS, LOT-R, daily spiritual experiences scale, private religious practices scale, organizational religiousness scale, positive religious coping scale, negative religious coping scale, and BDI-II across gender and ethnic groups.

Hypothesis 7: Moderation analyses following the same steps as those described in step 5 were conducted within each ethnic group separately for the THS, LOT-R, daily spiritual experiences scale, private religious practices scale, organizational religiousness scale, positive religious coping scale, and negative religious coping scale. Ethnicity was used as a point of stratification rather than as a moderating variable.

To produce graphic illustrations of significant moderator effects using simple slopes regression lines, data were split based on values falling at or above one standard deviation greater than the mean and values falling at or below one standard deviation less than the mean (Aiken & West, 1991). To determine the unique effects of variables in moderation analyses, it is important to statistically control for some variables (Baron & Kenny, 1986), a procedure that assesses the effect of the independent variable on the dependent variable over and above the effects of control variables. With regard to depression, females are approximately twice as likely as males to have subclinical and diagnosable MDD (Nolen-Hoeksema & Girgus, 1994) and higher age is often predictive of increased levels of depression (Hasin et al., 2005). Therefore, gender and age were controlled in moderation analyses.
CHAPTER 3
RESULTS

Descriptive Results

Demographic variables assessed included age, gender, religious affiliation, and education level (see Table 1). Although income levels were assessed in the original study, excessive missing data (30.30%) of this item precluded its use as in any analyses. The total sample consisted of 386 (69.17% female) undergraduate students from an urban, Northeastern university. Ages ranged from 18 to 46 years with a mean age of 19.60 (SD=3.12) years. Self-reports found that 41.45% (n=160) of individuals were Hispanic, 25.39% (n=98) were Black, 18.39% (n=71) were White, 5.70% (n=22) were Asian, less than 1% (n=3) were Native American, and, of the remaining, 7.25% (n=28) selected “Other” and 1.04% (n=4) did not respond to the question. No significant differences for the age of participants or year in college were found across ethnic groups. Whites were significantly more likely to be male than were Hispanics ($p<.01$).

Descriptive statistics were generated for each of the scales being used in the study (see Table 1). Analysis of depressive symptoms, the outcome variable, revealed that the mean BDI-II total score for the entire sample was 12.76 (SD = 8.53), which is similar to that reported by other studies using college samples (Beck et al., 1996; Carmody, 2005). Using the cut-off scores reported by Beck et al. (1996) in the original manual, 219 (60.0%) participants scored within the minimal range of depressive symptoms (0-13); 80 (21.9%) scored in the mild range (14-19); 42 (11.5%) scored in the moderate range (20-28); and 24 (6.6%) scored in the severe range. Using cutoff scores recommended by Dozois et al. (1998), 212 (56.8%) were nondepressed (0-12), 89 (23.9%) were dysphoric (13-19), and 72 (19.3%) were dysphoric or depressed (20-63).
Table 1

Levels of Demographic, Predictor, and Criterion Variables across Ethnic Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Sample</th>
<th>Blacks</th>
<th>Hispanics</th>
<th>Whites</th>
<th>Asians</th>
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</thead>
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<td>70.41%</td>
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Religious Affiliation

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<th>Muslim</th>
<th>Protestant</th>
<th>Buddhist</th>
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<tr>
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<td>23.47%</td>
<td>0%</td>
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<td>6.12%</td>
<td>1.02%</td>
<td>47.69%</td>
<td>16.33%</td>
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<tr>
<td></td>
<td>75.63%</td>
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<td>0%</td>
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<td>54.93%</td>
<td>8.45%</td>
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<td>18.31%</td>
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Note: a and b are significantly different from each other at p<.05.

Note: Depressive Symptoms = Beck Depression Inventory-II total score; Trait Hope = Trait Hope Scale total score; Optimism = Life Orientation Test-Revised total score; Religion and Spirituality variables = subscales of Fetzer Brief Multidimensional Measure of Religiousness / Spirituality.

Note: Year in college based on values of 1= Freshman, 2= Sophomore, 3= Junior, and 4= Senior.

Mean Differences Across Ethnic Groups

Using the analysis of variance (ANOVA) test, mean levels of each study variable were assessed to see if they differed by ethnic status. Significant ethnic differences were found for optimism, $F(3, 341) = 3.45, \ p = .017$; daily spiritual experiences, $F(3, 341) = 7.35, \ p<.001$;
private religious practices, \( F(3, 341) = 8.09, p < .001 \); organizational religiousness, \( F(3, 341) = 4.06, p = .007 \); and positive religious coping, \( F(3, 341) = 5.27, p = .001 \) (see Table 1). Bonferroni post-hoc analyses revealed that Hispanics reported significantly higher levels of optimism than Blacks (\( \text{M}_{\text{diff}} = 2.10, p = .010 \)). Blacks reported significantly higher levels of daily spiritual experiences than Hispanics (\( \text{M}_{\text{diff}} = 2.76, p = .032 \)), Whites (\( \text{M}_{\text{diff}} = 5.00, p < .001 \)), and Asians (\( \text{M}_{\text{diff}} = 5.58, p = .009 \)). For private religious practices, Blacks again reported significantly higher levels than Hispanics (\( \text{M}_{\text{diff}} = 3.31, p < .001 \)) and Whites (\( \text{M}_{\text{diff}} = 4.29, p < .001 \)) but not Asians (\( \text{M}_{\text{diff}} = 3.87, p = .067 \)). For organizational religiousness, Blacks reported significantly higher levels than Hispanics (\( \text{M}_{\text{diff}} = 0.91, p = .022 \)) but not Whites (\( \text{M}_{\text{diff}} = 0.86, p = .133 \)) nor Asians (\( \text{M}_{\text{diff}} = 1.53, p = .052 \)). Blacks reported significantly higher levels of positive religious coping than Whites (\( \text{M}_{\text{diff}} = 1.93, p = .001 \)) but not Hispanics (\( \text{M}_{\text{diff}} = 0.81, p = .065 \)) nor Asians (\( \text{M}_{\text{diff}} = 1.00, p = .527 \)).

Bivariate Associations Among Study Variables

An analysis using Pearson’s Product Moment Correlation supported the first hypothesis, which stated that negative life events would be significantly positively associated with depressive symptoms (\( r = .39, p < .001 \)) (see Table 2). In support of the second hypothesis, which predicted a significant negative relationship between positive psychological characteristics and depressive symptoms, trait hope (\( r = -.52, p < .001 \)) as well as optimism (\( r = -.55, p < .001 \)) were significantly associated with decreased total score on the BDI-II. The third hypothesis, which anticipated a significant negative relationship between measures of religious and spiritual characteristics and depressive symptoms, was partially supported. Daily spiritual experiences were significantly negatively related to depressive symptoms (\( r = -.16, p < .01 \)); however, private religious practices (\( r = -.09, p = .09 \)) and organizational religiousness (\( r = -.08, p = .11 \)) were not
Table 2

Bivariate Correlations of Study Variables, with Demographics Included

<table>
<thead>
<tr>
<th></th>
<th>Depressive Symptoms</th>
<th>Negative Life Events</th>
<th>Trait Hope</th>
<th>Optimism</th>
<th>Spiritual Experiences</th>
<th>Religious Practices</th>
<th>Organizational Religiousness</th>
<th>Positive Coping</th>
<th>Negative Coping</th>
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<th>Age</th>
<th>Year in School</th>
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<td>-.08</td>
<td>-.10</td>
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<td>.28***</td>
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<td>.04</td>
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<td>-.17**</td>
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<tr>
<td>Trait Hope</td>
<td>-</td>
<td>-</td>
<td>.57***</td>
<td>.21***</td>
<td>.12*</td>
<td>.03</td>
<td>.15**</td>
<td>-.20**</td>
<td>-.14**</td>
<td>.13*</td>
<td>.05</td>
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</tr>
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<td>-</td>
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<td>.15**</td>
<td>.05</td>
<td>.15**</td>
<td>-.30***</td>
<td>-.10*</td>
<td>-.15**</td>
<td>-.10</td>
</tr>
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<td>Spiritual Experiences</td>
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<td>-</td>
<td>-</td>
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<td>.48***</td>
<td>.77***</td>
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<td>.07</td>
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<td>.07</td>
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<td>.65***</td>
<td>-.08</td>
<td>.04</td>
<td>.16**</td>
<td>.13*</td>
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<td>-.07</td>
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<td>-.07</td>
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<td>.03</td>
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<td>.32***</td>
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Note: *p<.05, **p<.01, ***p<.001.

Note: Depressive Symptoms = Beck Depression Inventory-II total score; Trait Hope = Trait Hope Scale total score; Optimism = Life Orientation Test-Revised total score; Religion and spirituality variables = subscales of Fetzer Brief Multidimensional Measure of Religiousness / Spirituality.
significantly associated with depressive symptoms. Lastly, the fourth hypothesis predicting contrasting relationships between two aspects of religious coping and depressive symptoms was partially supported; negative religious coping ($r = .35, p<.001$) was positively associated with depressive symptoms, but the relationship between positive religious coping and depressive symptoms did not reach significance although it did show a clinically meaningful trend ($r = -.10, p = .057$).

Moderation Analyses of Study Variables and Depressive Symptoms

Trait Hope as a Moderator

For the total sample, trait hope (standardized $\beta = -.42, p<.001$) was associated with decreased depressive symptoms, and negative life events ($\beta = .30, p<.001$) predicted increased depressive symptoms (see Table 3). The addition of the interaction term in Step 2 significantly improved the predictability of the model, $F(1, 371) = 4.69, p = .031$, thereby supporting hope as a moderator. The negative valence of the interaction term ($\beta = -.09$) suggests that the relationship between negative life events and depressive symptoms is weakened as levels of trait hope increase. In simple slopes testing, both high trait hope ($t = 3.37, p<.001$) and low trait hope ($t = 6.69, p<.001$) were significantly different from zero, suggesting that negative life events are positively related to depressive symptoms regardless of the level of trait hope (see Figure 1).

Negative life events were positively related to depressive symptoms for each ethnic group. Hope was associated with fewer depressive symptoms in Blacks, Hispanics, and Whites but not Asians. Although hope significantly moderated life events and depressive symptoms for the entire sample, it did not reach significance as a moderator in any of the individual ethnic groups (see Table 3).
Table 3

**Negative Life Events, Hope, and Depressive Symptoms—Multivariate Linear Regression**

<table>
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<tr>
<th></th>
<th>Total Sample</th>
<th>Blacks</th>
<th>Hispanics</th>
<th>Whites</th>
<th>Asians</th>
</tr>
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<td>$R^2 = .395$</td>
<td>$R^2 = .440$</td>
<td>$R^2 = .389$</td>
<td>$R^2 = .460$</td>
<td>$R^2 = .454$</td>
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<td><strong>Step 2 $\Delta R^2$</strong></td>
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<td>$\Delta R^2 = .013$</td>
<td>$\Delta R^2 = .001$</td>
<td>$\Delta R^2 = .021$</td>
<td>$\Delta R^2 = .051$</td>
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<table>
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<td>3.25 [1.35]</td>
<td>1.71</td>
<td>7.93 [4.64]</td>
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<td>.17 [.16]</td>
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<td>.07 [.95]</td>
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<td>-5.03‡</td>
<td>-1.00 [.20]</td>
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<td>-1.08 [.16]</td>
<td>-5.01‡</td>
<td>-.99 [.19]</td>
<td>-1.43</td>
<td>-.73 [.51]</td>
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<tr>
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<td>.73 [.10]</td>
<td>3.88‡</td>
<td>.80 [.21]</td>
<td>3.96‡</td>
<td>.71 [.18]</td>
<td>2.80+</td>
<td>.56 [.20]</td>
<td>2.54*</td>
<td>1.03 [.41]</td>
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<table>
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<td>.20 [.41]</td>
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<td>-.20 [.96]</td>
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<td>-5.22‡</td>
<td>-1.04 [.20]</td>
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<td>-1.08 [.16]</td>
<td>-5.00‡</td>
<td>-.96 [.19]</td>
<td>-1.28</td>
<td>-.65 [.51]</td>
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<tr>
<td>Negative Life Events</td>
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<td>.71 [.10]</td>
<td>3.44‡</td>
<td>.72 [.21]</td>
<td>3.97‡</td>
<td>.71 [.18]</td>
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<td>.48 [.214]</td>
<td>2.84*</td>
<td>1.20 [.42]</td>
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<td>-.06 [.03]</td>
<td>-1.44</td>
<td>-.07 [.05]</td>
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<td>-.02 [.05]</td>
<td>-.160</td>
<td>-.07 [.05]</td>
<td>-.124</td>
<td>-.12 [.10]</td>
</tr>
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</table>

* $p<.05$, ‡$p<.01$, ‡‡$p<.001$.

**Note:** Negative Life Events = Life Events Scale total score; Trait Hope = Trait Hope Scale total score; Depressive Symptoms = Beck Depression Inventory-II total score.
Optimism as a Moderator

For the total sample, optimism ($\beta = -.46, p < .001$) and negative life events ($\beta = .26, p < .001$) were significantly related to decreased and increased depressive symptoms, respectively (see Table 4). The inclusion of the interaction term in Step 2 did not statistically support optimism as a moderator although it did show a clinically significant trend $F(1, 371) = 3.77, p = .053$.

Separate moderator analyses were conducted for each ethnic group. Negative life events significantly predicted increased depressive symptoms for each ethnic group, and optimism predicted decreased depressive symptoms in Blacks, Hispanics, and Whites but not Asians.
<table>
<thead>
<tr>
<th>Step</th>
<th>Total Sample</th>
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<th>Whites</th>
<th>Asians</th>
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<td>R² = .485</td>
<td>R² = .374</td>
<td>R² = .552</td>
<td>R² = .406</td>
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<td>ΔR² = .014</td>
<td>ΔR² = .000</td>
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<td>ΔR² = .033</td>
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</tr>
<tr>
<td>Gender</td>
<td>5.93‡</td>
<td>4.53 [.76]</td>
<td>2.79+</td>
<td>3.86 [1.38]</td>
<td>3.96‡</td>
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<tr>
<td>Age</td>
<td>2.28*</td>
<td>.26 [.11]</td>
<td>2.14*</td>
<td>.39 [.20]</td>
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<td>.77 [.07]</td>
<td>5.94‡</td>
<td>.80 [.14]</td>
<td>6.27‡</td>
</tr>
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<td>3.96‡</td>
<td>.77 [.20]</td>
<td>3.84‡</td>
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<td>Step Two</td>
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<tr>
<td>Gender</td>
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<td>4.48 [.76]</td>
<td>2.86+</td>
<td>3.93 [1.37]</td>
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<td>.34 [.19]</td>
<td>1.38</td>
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<td>.61 [.10]</td>
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<td>Optimism X</td>
<td>1.94</td>
<td>.04 [.02]</td>
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<td>.07 [.04]</td>
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</table>

* p<.05, +p<.01, ‡p<.001.

Note: Negative Life Events = Life Events Scale total score; Optimism = Life Orientation Test- Revised total score; Depressive Symptoms = Beck Depression Inventory-II total score.
In Whites only optimism significantly moderated the relationship between negative life events and depressive symptoms, $F(1, 68) = 4.12, p = .047$ (see Table 4). In simple slopes testing, the regression line for low levels of optimism was significantly different from zero ($t = 2.80, p = .007$), but there was not a significant slope for those with high levels of optimism ($t = 0.28, p = .78$) (see Figure 2). The relationship between negative life events and depressive symptoms was significant for Whites with low optimism, but nonsignificant for those with high levels of optimism.

**Daily Spiritual Experiences as a Moderator**

In the entire sample daily spiritual experiences ($\beta = -.13, p = .007$) was associated with decreased depressive symptoms and negative life events ($\beta = .39, p < .001$) was related to increased depressive symptoms. The inclusion of the interaction term in Step 2 did not support daily spiritual experiences as a moderator, $F(1, 371) = 0.61, p = .43$ (see Table 5).

Negative life events significantly predicted increased depressive symptoms for each ethnic group. Daily Spiritual Experiences were a significant predictor of decreased depressive symptoms in Whites only. Similarly, daily spiritual experiences moderated negative life events and depressive symptoms in only Whites, $F(1, 68) = 6.87, p = .011$ (see Table 5). The relationship between negative life events and depressive symptoms was significantly weaker at higher rather than lower levels of daily spiritual experiences. The simple slopes regression lines reveal that at low ($t = 4.04, p < .001$) but not high ($t = 0.74, p = .46$) levels of daily spiritual experiences, negative life events predict increased depressive symptoms (see Figure 3).

**Private Religious Practices as a Moderator**

For the entire sample private religious practices ($\beta = -.09, p = .049$) were related to decreased depressive symptoms, and negative life events ($\beta = .39, p < .001$) were associated with
Figure 2. Regression of Depressive Symptoms on Negative Life Events for High Optimism (1 SD above) and Low Optimism (1 SD below) for Whites (N = 71).

Note: Depressive Symptoms = Beck Depression Inventory-II total score; Optimism = Life Orientation Test-Revised total score; Negative Life Events = Life Events Scale total score.

Note: Low Negative Life Events = Negative Life Events 1 SD below mean; High Negative Life Events = Negative Life Events 1 SD above mean.
Table 5

**Negative Life Events, Daily Spiritual Experiences, and Depressive Symptoms—Multivariate Linear Regression**

<table>
<thead>
<tr>
<th></th>
<th>Total Sample</th>
<th>Blacks</th>
<th>Hispanics</th>
<th>Whites</th>
<th>Asians</th>
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<td>R² = .246</td>
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<td>R² = .304</td>
<td>R² = .417</td>
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**Step One**

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<td>.35 [4.8]</td>
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<td>.35 [9.8]</td>
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<tr>
<td>Spiritual Experiences</td>
<td>-2.74+</td>
<td>-.14 [.05]</td>
<td>-1.14</td>
<td>-.12 [10]</td>
<td>-.57</td>
<td>-.05 [0.9]</td>
<td>-.23*</td>
<td>-.22 [0.9]</td>
<td>-.95</td>
<td>-.27 [28]</td>
</tr>
<tr>
<td>Negative Life Events</td>
<td>8.37‡</td>
<td>.92 [.11]</td>
<td>5.13‡</td>
<td>1.12 [22]</td>
<td>4.94‡</td>
<td>.98 [20]</td>
<td>4.06‡</td>
<td>.87 [22]</td>
<td>2.12*</td>
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**Step Two**

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<td>-.23 [0.9]</td>
<td>-.92</td>
<td>-.27 [29]</td>
</tr>
<tr>
<td>Negative Life Events</td>
<td>8.25‡</td>
<td>.91 [.11]</td>
<td>4.94‡</td>
<td>1.09 [22]</td>
<td>5.05‡</td>
<td>1.02 [20]</td>
<td>3.92‡</td>
<td>.81 [21]</td>
<td>2.07</td>
<td>.93 [45]</td>
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<td>Spiritual Experiences X Negative Life Events</td>
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<td>-.03 [0.3]</td>
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<td>.03 [0.3]</td>
<td>-2.62*</td>
<td>-.07 [0.3]</td>
<td>-.25</td>
<td>-.01 [0.5]</td>
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* p<.05, +p<.01, ‡p<.001.

**Note**: Negative Life Events = Life Events Scale total score; Spiritual Experiences = Daily Spiritual Experiences total score (Fetzer); Depressive Symptoms = Beck Depression Inventory-II total score.
increased symptoms of depression. Including the interaction term in Step 2 did not support private religious practices as a moderator, $F(1, 371) = 2.47, p = .12$ (see Table 6).

In ethnically stratified analyses, negative life events significantly predicted increased depressive symptoms, and private religious practices significantly predicted decreased depressive symptoms in both Whites and Asians. The interaction term, however, was significant in only Blacks, $F(1, 94) = 4.45, p = .038$ and Whites, $F(1, 68) = 8.65, p < .005$ (see Table 6). In both cases as levels of private religious practices increased, the relationship between negative life events and depressive symptoms weakened. In simple slopes regression analyses for Blacks there was a significant effect of negative life events on depressive symptoms at low ($t = 5.64, p < .001$) but not high ($t = 1.85, p = .068$) levels of private religious practices (see Figure 4). Similarly, in
Table 6

**Negative Life Events, Private Religious Practices, and Depressive Symptoms—Multivariate Linear Regression**

<table>
<thead>
<tr>
<th>Step</th>
<th>Total Sample</th>
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<th>Whites</th>
<th>Asians</th>
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**Step One**

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<tbody>
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<td>6.30‡</td>
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<td>4.11‡</td>
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<td>.39 [.22]</td>
<td>.55</td>
<td>.10 [.19]</td>
<td>1.05</td>
<td>.53 [.51]</td>
<td>.57</td>
<td>.50 [.88]</td>
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<tr>
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<td>8.68‡</td>
<td>.95 [.11]</td>
<td>5.26‡</td>
<td>1.14 [.22]</td>
<td>5.05‡</td>
<td>.99 [.20]</td>
<td>4.40‡</td>
<td>.94 [.21]</td>
<td>2.85*</td>
<td>1.07 [.38]</td>
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**Step Two**

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<td>.70</td>
<td>.34 [.48]</td>
<td>.52</td>
<td>.47 [.91]</td>
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<tr>
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<td>.94 [.11]</td>
<td>4.82‡</td>
<td>1.05 [.22]</td>
<td>5.14‡</td>
<td>1.03 [.20]</td>
<td>4.89‡</td>
<td>.99 [.20]</td>
<td>2.77*</td>
<td>1.08 [.39]</td>
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<tr>
<td>Religious Practices X Negative Life Events</td>
<td>-1.57</td>
<td>-.03 [.02]</td>
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<td>-.07 [.03]</td>
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<td>.04 [.04]</td>
<td>-2.94+</td>
<td>-.10 [.03]</td>
<td>-2.3</td>
<td>-.01 [.05]</td>
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* $p < .05$, +$p < .01$, ‡$p < .001$.

Note: Negative Life Events = Life Events Scale total score; Religious Practices = Private Religious Practices total score (Fetzer); Depressive Symptoms = Beck Depression Inventory-II total score.
Figure 4. Regression of Depressive Symptoms on Negative Life Events for high Private Religious Practices (1 SD above) and low Private Religious Practices (1 SD below) for Blacks (N = 98).

Note: Depressive symptoms = Beck Depression Inventory-II total score; Optimism = Life Orientation Test-Revised total score; Negative Life Events = Life Events Scale total score.
Note: Low Negative Life Events = Negative Life Events 1 SD below mean; High Negative Life Events = Negative Life Events 1 SD above mean.

Whites negative life events significantly predicted increased depressive symptoms at low (t = 5.59, p<.001) but not high (t = 1.35, p>.05) levels of private religious practices (see Figure 5).

Organizational Religiousness as a Moderator

Organizational religiousness (β = -.07, p = .14) did not significantly predict depressive symptoms beyond the effects of covariates for the entire sample (see Table 7). As in other analyses, negative life events (β = .40, p<.001) were significantly associated with increased depressive symptoms. The interaction term in Step 2 did not support organizational religiousness as a moderator, F (1, 371) = 1.83, p = .18.

In ethnically stratified analyses, negative life events significantly predicted increased depressive symptoms for each ethnic group. Organizational religiousness significantly predicted
Figure 5. Regression of Depressive Symptoms on Negative Life Events for high Private Religious Practices (1 SD above) and low Private Religious Practices (1 SD below) for Whites (N = 70).

Note: Depressive Symptoms = Beck Depression Inventory-II total score; Private Religious Practices = Private Religious Practices total score (Fetzer); Negative Life Events = Life Events Scale total score.

Note: Low Negative Life Events = Negative life events 1 SD below mean; High Negative Life Events = Negative Life Events 1 SD above mean.
Table 7

Negative Life Events, Organizational Religiousness, and Depressive Symptoms—Multivariate Linear Regression

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<th>Total Sample</th>
<th>Blacks</th>
<th>Hispanics</th>
<th>Whites</th>
<th>Asians</th>
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<tbody>
<tr>
<td><strong>Step 1 $R^2$</strong></td>
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<tr>
<td></td>
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<td>$R^2 = .287$</td>
<td>$R^2 = .212$</td>
<td>$R^2 = .320$</td>
<td>$R^2 = .435$</td>
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<tr>
<td><strong>Step 2 $\Delta R^2$</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\Delta R^2 = .004$</td>
<td>$\Delta R^2 = .031$</td>
<td>$\Delta R^2 = .001$</td>
<td>$\Delta R^2 = .093$</td>
<td>$\Delta R^2 = .010$</td>
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**Step One**

<table>
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<th>Total Sample</th>
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<th>Whites</th>
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<td>.25</td>
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<td>.69</td>
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<tr>
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<td>6.08‡</td>
<td>2.90+</td>
<td>4.71 [1.62]</td>
<td>1.54</td>
<td>2.33 [1.51]</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>1.19</td>
<td>.36 [22]</td>
<td>.54 [1.9]</td>
<td>.46</td>
<td>.31 [1.46]</td>
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<td>.527+</td>
<td>5.07 [122]</td>
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<td>1.62 [2.68]</td>
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**Step Two**

<table>
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<tbody>
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<td>.17</td>
<td>.75 [4.47]</td>
<td>.88</td>
<td>7.31 [8.28]</td>
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<tr>
<td><strong>Gender</strong></td>
<td>6.00‡</td>
<td>2.83+</td>
<td>4.53 [1.60]</td>
<td>1.70</td>
<td>2.40 [1.41]</td>
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<tr>
<td><strong>Age</strong></td>
<td>1.20</td>
<td>.39 [21]</td>
<td>.55 [1.9]</td>
<td>.32</td>
<td>.14 [43]</td>
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<tr>
<td><strong>Organizational Religiousness</strong></td>
<td>-1.47</td>
<td>-.96</td>
<td>-.28 [29]</td>
<td>.09</td>
<td>-.71 [29]</td>
</tr>
<tr>
<td><strong>Negative Life Events</strong></td>
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<td>.500‡</td>
<td>5.08 [120]</td>
<td>4.97‡</td>
<td>.99 [20]</td>
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<tr>
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<td>-1.35</td>
<td>-.202*</td>
<td>-.20 [10]</td>
<td>.46</td>
<td>-.28 [9]</td>
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* $p<.05$, +$p<.01$, ‡$p<.001$.

Note: Negative Life Events = Life Events Scale total score; Organizational Religiousness = Organizational Religiousness total score (Fetzer); Depressive Symptoms = Beck Depression Inventory-II total score.
decreased depressive symptoms in Whites only. The interaction term, although, was significant in Blacks, $F(1, 94) = 4.07, p = .047$ and Whites, $F(1, 68) = 10.18, p = .002$. Both terms indicated that increasing levels of organizational religiousness were associated with a weakened relationship between negative life events and depressive symptoms. For Blacks a significant relationship between life events and depressive symptoms was found at low levels of organizational religiousness ($t = 5.10, p < .001$); however, the slope (see Figure 6) was nonsignificant for individuals scoring high in organizational religiousness ($t = 1.61, p = .11$). The same pattern was found in Whites at low ($t = 5.36, p < .001$) and high ($t = 1.11, p = .27$) organizational religiousness (see Figure 7).

**Positive Religious Coping as a Moderator**

Positive religious coping ($\beta = -.09, p = .06$) did not contribute unique variance to BDI-II scores, but negative life events ($\beta = .39, p < .001$) were positively associated with depressive symptoms for the entire sample. The inclusion of the interaction term in Step 2 did not significantly account for additional variance, $F(1, 371) = 1.67, p = .20$ (see Table 8), indicating that positive religious coping does not moderate negative life events and depressive symptoms. Negative life events significantly predicted depressive symptoms for each ethnic group. Positive religious coping was not significantly associated with depressive symptoms in any of the ethnic groups. The interaction of positive religious coping and negative life events contributed significant unique variance to BDI-II scores among Whites, $F(1, 68) = 4.53, p = .037$. In this case increasing levels of positive religious coping weakened the relationship between negative life events and depressive symptoms. Simple slopes regression lines (see Figure 8) show that negative life events significantly predicted increased depressive symptoms at low ($t = 4.17, p < .001$) but not high ($t = 1.26, p = .21$) levels of positive religious coping.
Figure 6. Regression of Depressive Symptoms on Negative Life Events for High Organizational Religiousness (1 SD above) and Low Organizational Religiousness (1 SD below) for Blacks (N = 98).

Note: Depressive symptoms = Beck Depression Inventory-II total score; Organizational Religiousness = Organizational Religiousness total score (Fetzer); Negative Life Events = Life Events Scale total score. Note: Low Negative Life Events = Negative life events 1 SD below mean; High Negative Life Events = Negative Life Events 1 SD above mean.
Figure 7. Regression of Depressive Symptoms on Negative Life Events for high Organizational Religiousness (1 SD above) and low Organizational Religiousness (1 SD below) for Whites (N = 70).

Note: Depressive symptoms = Beck Depression Inventory-II total score; Organizational Religiousness = Organizational Religiousness total score (Fetzer); Negative Life Events = Life Events Scale total score.

Note: Low Negative Life Events = Negative life events 1 SD below mean; High Negative Life Events = Negative Life Events 1 SD above mean.
Table 8

**Negative Life Events, Positive Religious Coping, and Depressive Symptoms—Multivariate Linear Regression**

<table>
<thead>
<tr>
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<th>Total Sample</th>
<th>Blacks</th>
<th>Hispanics</th>
<th>Whites</th>
<th>Asians</th>
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<td>R² = .295</td>
<td>R² = .212</td>
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<tr>
<td><strong>Step 2 ΔR²</strong></td>
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<td>ΔR² = .023</td>
<td>ΔR² = .002</td>
<td>ΔR² = .048</td>
<td>ΔR² = .002</td>
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<td></td>
</tr>
<tr>
<td>Gender</td>
<td>6.32‡</td>
<td>5.49 [.87]</td>
<td>2.94+</td>
<td>4.73 [1.91]</td>
<td>4.11‡</td>
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<tr>
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<td>.16 [.13]</td>
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<td>.35 [.21]</td>
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<tr>
<td>Negative Life Events</td>
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<td>.94 [.11]</td>
<td>5.16‡</td>
<td>1.12 [.22]</td>
<td>5.03‡</td>
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<tr>
<td>Negative Life Events</td>
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<td>.92 [.11]</td>
<td>5.08‡</td>
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<td>-.04 [.03]</td>
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<td>-.12 [.07]</td>
<td>.63</td>
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* p<.05, +p<.01, ‡p<.001.

**Note:** Negative Life Events = Life Events Scale total score; Positive Religious Coping = Positive Religious Coping total score (Fetzer); Depressive Symptoms = Beck Depression Inventory-II total score.
Figure 8. Regression of Depressive Symptoms on Negative Life Events for high Positive Religious Coping (1 SD above) and low Positive Religious Coping (1 SD below) for Whites (N = 71).

Note: Depressive Symptoms = Beck Depression Inventory-II total score; Positive Religious Coping = Positive Religious Coping total score (Fetzer); Negative Life Events = Life Events Scale total score. Note: Low Negative Life Events = Negative Life Events 1 SD below mean; High Negative Life Events = Negative Life Events 1 SD above mean.

Negative Religious Coping as a Moderator

For the entire sample negative religious coping ($\beta = .27, p < .001$) and negative life events ($\beta = .35, p < .001$) were both associated with increased depressive symptoms. The inclusion of the interaction term in Step 2 did not support negative religious coping as a moderator, $F(1, 371) = 0.85, p = .36$ (see Table 9).

Negative life events were positively associated with depressive symptoms in each ethnic group except for Asians. Negative religious coping was a significant predictor of depressive symptoms in Blacks and Hispanics. In Asians only negative religious coping significantly moderated the relationship between life events and depressive symptoms, $F(1, 19) = 6.02, p = .027$. The positive valence of the interaction term ($\beta = .41$) indicates that higher levels of
Table 9

Negative Life Events, Negative Religious Coping, and Depressive Symptoms—Multivariate Linear Regression

<table>
<thead>
<tr>
<th>Step</th>
<th>Total Sample</th>
<th>Blacks</th>
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<th>Whites</th>
<th>Asians</th>
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**Step One**

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<td>.46 [.20]</td>
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<td>.20 [.18]</td>
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<td>4.92‡</td>
<td>.92 [.19]</td>
<td>4.00‡</td>
<td>.90 [.23]</td>
<td>2.10</td>
<td>.89 [.42]</td>
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**Step Two**

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<td>5.29 [.150]</td>
<td>3.73‡</td>
<td>5.67 [.152]</td>
<td>1.69</td>
<td>2.71 [1.60]</td>
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<td>.08 [.49]</td>
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<td>3.91‡</td>
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<td>2.65*</td>
<td>.98 [.37]</td>
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<td>Negative Religious Coping</td>
<td>X Negative Life Events</td>
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<td>-0.05 [.07]</td>
<td>1.73</td>
<td>.15 [.09]</td>
<td>.05</td>
<td>.01 [.12]</td>
<td>2.45*</td>
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* $p<.05$, ‡$p<.01$, †$p<.001$.

Note: Negative Life Events = Life Events Scale total score; Negative Religious Coping = Negative Religious Coping total score (Fetzer); Depressive Symptoms = Beck Depression Inventory-II total score.
negative religious coping amplified the relationship between negative life events and depressive symptoms. Simple slopes testing (see Figure 9) demonstrated that the relationship between negative life events and depressive symptoms is significantly different from zero for individuals scoring high ($t = 3.72, p < .001$) but not low ($t = -0.23, p = .82$) in negative religious coping.
Figure 9. Regression of Depressive Symptoms on Negative Life Events for high Negative Religious Coping (1 SD above) and low Negative Religious Coping (1 SD below) for Asians (N = 21).

Note: Depressive Symptoms = Beck Depression Inventory-II total score; Negative Religious Coping = Negative Religious Coping total score (Fetzer); Negative Life Events = Life Events Scale total score. Note: Low Negative Life Events = Negative Life events 1 SD below mean; High Negative Life Events = Negative Life Events 1 SD above mean.
CHAPTER 4
DISCUSSION

The current study investigated the relationship between negative and potentially traumatic life events and depressive symptoms in an ethnically diverse sample. The potential moderating role of positive psychological characteristics including trait hope and optimism and spiritual or religious characteristics including daily spiritual experiences, private religious practices, organizational religiousness, positive religious coping, and negative religious coping was also examined including differences in main and moderating effects among ethnic groups.

Current results support previous research indicating a significant negative relationship between depressive symptoms and trait hope (Arnau, Rosen, Finch, Rhudy, & Fortunato, 2007; Chang & DeSimone; 2001; Kwon, 2000; Snyder et al., 1991), and between depressive symptoms and dispositional optimism (Andersson, 1996; Hirsch, Wolford, et al., 2007; Scheier et al., 1994). These relationships were expected and contribute support to the growing body of literature positing hope and optimism as important variables in depression research. This study also concurs with literature suggesting a negative relationship between symptoms of depression and various aspects of religiosity (Koenig & Larson, 2001). The current study, however, extends previous research by examining the moderator status of positive psychological and religious and spiritual variables across ethnicities.

Hypotheses

Hypothesis 1: Negative Life Events and Depressive Symptoms

As hypothesized, negative and potentially traumatic life events experienced by college students were significantly associated with depressive symptoms in the entire sample. This finding is consistent with decades of research on the deleterious effects of experiencing stressful
and potentially traumatic life events (Kendler et al., 1999; Kessler, 1997; Tennant, 2002). The moderate association between the life events scale and the BDI-II is consonant with correlation coefficients found in studies with similar samples and instruments (Dixon & Reid, 2000; Gencoz & Dinc, 2006; Konick & Gutierrez, 2005). Yet, much of the variance in depressive symptoms is left unexplained, which may indicate that more detailed analysis of life stress is needed to accurately assess the relationship between negative life events and depressive symptoms (Kessler, 1997), or that factors other than life stress account for the majority of variance in symptoms of depression. These other factors may include biological variables such as endocrine and neurotransmitter levels, dysregulation in brain functioning, genetic structure, and cognitive impairment (Bloch, Daly, & Rubinow, 2003; Fava & Kendler, 2000; Kato, 2007; Vink et al., 2008); environmental circumstances such as familial structure, SES, social networks, and living conditions (Hammen, Rudolph, Weisz, & Burge, 1999; Vink et al., 2008); or psychological and behavioral characteristics such as neuroticism, self-image, comorbid psychopathology, health habits, coping styles, mastery, locus of control, self-efficacy, and those included in the present study (McCullough & Larson, 1999; Reff et al., 2005; Scheier et al., 1994; Vink et al., 2008).

**Hypothesis 2: Trait Hope, Dispositional Optimism, and Depressive Symptoms**

As expected, trait hope and dispositional optimism were significantly negatively correlated with depressive symptoms in the entire sample. This corroborates previous research indicating a salutary effect of positive psychological characteristics such as hope and optimism on depressive symptoms (Andersson, 1996; Arnau et al., 2007; Chang, 1997; Chang & DeSimone, 2001; Chang & Sanna, 2003; Hirsch, Conner, & Duberstein, 2007; Kwon, 2000; Scheier et al., 1994; Snyder et al., 1991). The relatively strong negative relationships of optimism and hope with depressive symptoms in the current study support the potential value of
these constructs in treatment and intervention efforts by suggesting that moderate increases in hope and optimism levels may be associated with decreases in depressive symptoms.

In a review of the literature, Schueller and Seligman (2008) concluded that optimism appears to prevent and mitigate depression perhaps via promotion of positive emotions and a sense of life meaning. Similarly, Needles and Abramson (1990) concluded that optimism may play a critical role in recovery from depression. Interventions for bolstering optimism have been recently designed and tested in group and individual settings with empirical studies demonstrating efficacy using modified cognitive-behavioral strategies (Seligman, Schulman, & Tryon, 2007; Seligman & Csikszentmihalyi, 2000; Seligman, Schulman, DeRubeis, & Hollon, 1999) and techniques such as visualizing one’s best future and regularly counting and thinking about one’s blessings (Joseph & Linley, 2005; Seligman et al., 2005; Sheldon & Lyubomirsky, 2006).

Clinical efforts for strengthening hope have also been made. Snyder (1995) delineated several steps for enhancing hope in clients including identifying goals, imagining success, identifying potential pathways to achieving goals, and positively interpreting failures; Snyder et al. (2002) expanded these recommendations to include formulation of and mentally acting out ways to address barriers to goal attainment. Empirical support exists for interventions that increase hope via the use of positive self-statements, identifying and enhancing personal strengths, psychoeducation regarding effective goal-setting, and discussing personal narratives of successful hope (Pedrotti, Edwards, & Lopez, 2008; Ripley & Worthington, 2002; ; Snyder, Lehman, Kluck, & Monsson, 2006). Hope interventions have resulted in higher confidence in one’s ability to achieve goals and increased capacity for identifying environmental resources for goal accomplishment (Snyder et al., 2006). In addition to specialized interventions to promote
hope and optimism, clinicians are increasingly augmenting traditional treatments focused on symptom reduction with strategies aimed at preventing relapse and improving quality of life, via hope and optimism enhancement (Schueller & Seligman, 2008). Little is known, however, about the effectiveness of hope and optimism interventions in different ethnic groups (Chang & Banks, 2007); research in this area is needed.

**Hypothesis 3: Daily Spiritual Experiences, Private Religious Practices, Organizational Religiousness, and Depressive Symptoms**

As hypothesized, reporting higher levels of daily spiritual experiences represented by items such as feeling God’s presence, being touched by the beauty of creation, and feeling deep inner peace and harmony was associated with lower levels of depressive symptoms in this ethnically diverse sample. The small correlation found in the present study concurs with other research on daily spiritual experiences that indicates a weak negative relationship between spiritual experiences and depressive symptoms (George et al., 2000; Mofidi et al., 2006, 2007; Rippentrop et al., 2007). Spiritual experiences may indirectly influence depressive symptoms via a stronger a sense of direction and purpose in life, increased confidence that God will intervene on one’s behalf in times of difficulty, and reductions in feelings of loneliness (Mofidi et al., 2007).

Contrary to the hypothesis, neither private religious practices nor organizational religiousness were significantly negatively associated with depressive symptoms in the entire sample. The literature on private religious practices reveals that its relationship with depressive symptoms is tenuous at best (McCullough & Larson, 1999). Although some researchers have found that private religious practices such as prayer and viewing religious programs are predictive of better mental health (Musick, Koenig, Hays, & Cohen, 1998), other research has
found that private practices such as praying are unrelated or positively related to depressive symptoms (McCullough & Larson, 1999). Salutary effects of private religious practices on mental health may involve increased use of adaptive or less threatening cognitive appraisal as individuals deal with life stress in the context of their religious beliefs (Musick et al., 1998). Positive relationships between private religious practices and depressive symptoms may be due to a bidirectional relationship in which those with increased physical and psychological distress engage in more private religious practices as coping tools (McCullough & Larson, 1999; Pargament et al., 1998). Longitudinal research is needed to determine if private religious practices exert a causal influence on depressive symptoms over time.

The lack of a significant negative relationship between organizational religiousness and depressive symptoms is surprising as there is a substantial literature support indicating a negative association with depression (McCullough & Larson, 1999). It should be noted, however, that the correlation coefficient between organizational religiousness and depressive symptoms in the present study corresponds to reported ranges from other studies that reached significance using larger sample sizes (Smith et al., 2003), suggesting that the present results support rather than contradict a weak negative relationship between organizational religiousness and depressive symptoms. Organizational religiousness may benefit psychological health by promoting a decrease in risky behaviors such as substance abuse that can cause significant distress (Swendsen et al., 1998) and by increasing social support that can provide a sense of cohesion and belongingness (Moreiera-Almeida et al., 2006). Clinicians working with religious clients may identify ways to use the beneficial aspects of their clients’ participation in a religious organization to accomplish treatment goals (McCullough, 1999) such as increased social activity.
The association of organizational religiousness and depressive symptoms in the present study is not statistically significant; cultural background may be an important moderator of this relationship (Ellison, 1995). In a diverse sample as in the present study it is possible that, because of ethnic influences on the meaning of religiosity, the strength of the association between organizational religiousness and depressive symptoms is not reflective of the association that would be found in individual ethnic groups. Indeed, the present study supported such differences across ethnicity, and these results are discussed shortly.

**Hypothesis 4: Religious Coping and Depressive Symptoms**

Contrary to the hypothesis, positive religious coping was not significantly associated with fewer depressive symptoms in the entire sample, but there was a clinically meaningful trend ($p = .057$). Additionally, the strength of the relationship found in the current study corresponds with other research on positive religious coping and depressive symptoms (see Smith et al., 2003), indicating a weak negative association with depressive symptoms. Focusing on God and potential meaning after experiencing life stress may decrease a negative attentional bias that can lead to or exacerbate depressive symptoms (Macleod, Mathews, & Tata, 1986). Considering how one’s stress fits into a larger spiritual framework may increase positive affect by shifting focus to more favorable aspects of life circumstances (Pargament et al., 1998). Individuals high in positive religious coping also tend to have more supportive social relationships, perhaps as a result of seeking assistance from others in their faith (Ano & Vasconcelles, 2005; Toth-Cohen, 2004). In a clinical setting, reinforcing religious clients’ use of positive religious coping strategies can be effective for enhancing a therapeutic alliance by supporting rather than ignoring or demeaning an important aspect of clients’ lives (Worthington, Kurusu, McCullough, & Sandage, 1996).
Consistent with the hypothesis, negative religious coping did significantly predict increased depressive symptoms in the entire sample. When asked how they respond to stressful situations, participants who reported that they are likely to question whether God had abandoned them, feel punished by God, and attempt to solve problems without God also reported greater amounts of depressive symptoms. This positive association between negative religious coping and depressive symptoms corroborates other research (Fitchett, Rybarczyk, DeMarco, & Nicholas, 1999; Pargament et al., 1998). Rejecting and feeling judged or abandoned by God because one is experiencing life stressors may increase the salience of the negative aspects of a situation by increasing one’s fear of punishment and negating meaning that may result from a supportive relationship with God or personal growth that may result from viewing life stress as an opportunity rather than a threat (Ano & Vasconcelles, 2005; Maltby et al., 2003; Murphy et al., 2000; Park et al., 1990). Although religious beliefs may be a source of meaning and comfort for many people, they may also be a source of distress particularly when life stress is interpreted in a threatening manner (Pargament et al., 1998). Some people may unrealistically expect that God will not let bad things happen to them, leading to increased anger and feelings of rejection when challenges arise (Pargament et al., 1998). Clinicians working with clients high in negative religious coping may wish to promote a more favorable view of life stress, but they should be cautious to not directly challenge religious beliefs, which can jeopardize a therapeutic alliance (Worthington et al., 1998). Because of the difficulty and danger in attempting to directly change a client's negative religious coping style that may be contributing to clinically significant distress, research on how to indirectly encourage a more adaptive religious response to life stress is needed.
Hypothesis 5: Study Variables as Moderators

Trait Hope. As expected, trait hope significantly moderated the relationship between life stress and depressive symptoms in the entire sample. Although the interaction term was significant, negative life events were significantly associated with increased depression at both low and high levels of trait hope, indicating that the deleterious effects of experiencing life stressors may still exist even if a person has high hope. Previous research has also found trait hope to be a significant moderator of the association between depressive symptoms and stress, but stress was defined as failure to reach particular self-made goals such as scoring below a desired exam score (Reff et al., 2005; Snyder et al., 1991). The effects of acute and cumulative stressors may differ (Bjorck & Thurman, 2007), but the current results indicate that hope remains a significant moderator when stress is defined as an accumulation of life events.

Students in college may perceive excessive stress as a result of academic and vocational requirements, preparation for graduate school or careers, financial challenges, as well as changes in interpersonal relationships and support systems (Misra & McKean, 2000). Maintaining hope during times of stress may increase motivation to adaptively address demands and stressors by enhancing one’s self-confidence and ability to foresee a path to goal achievement (Snyder et al., 1991); in turn, this may reduce some of the distress arising from the experience of negative life events (Snyder et al., 1991) and ultimately may decrease symptoms of depression. Chang (1998b) found that college students high in hope tend to solve problems more effectively than those in low hope in part because they avoid maladaptive coping strategies that can exacerbate depressive symptoms such as social withdrawal and self-criticism. The long-term effectiveness of cognitive-behavioral therapies targeting maladaptive thoughts and behaviors may be increased if hope is concomitantly bolstered (Snyder, 1995).
Dispositional Optimism. Surprisingly, optimism was not a significant moderator of negative and potentially traumatic life events and depressive symptoms in the entire sample although there was a clinically significant trend toward significance ($p = .053$). Previous research on the moderating effect of optimism on the relationship between life stress and psychological distress has been found to be significant in past studies. Using a sample of high school students, Chang and Sanna (2003) reported a significant interaction in which the relationship between life hassles and depressive symptoms was significantly weaker for students high in optimism. A similar moderating effect of optimism in the relationship between perceived stress and depressive symptoms was found in college students, but the interaction did not achieve significance among a convenience sample of older adults (Chang, 2002). In a college sample, Hirsch, Wolford, et al. (2007) found that the association of negative life events and suicidal ideation and attempts was significantly weaker for students with high optimism. The variance explained by the interactions in each of these studies was relatively small as in the present research. As with trait hope, this may suggest that despite high levels of optimism experiencing negative life events is likely to lead to increased depressive symptoms. It should be noted, however, that in the present sample a relatively strong negative correlation between optimism and depressive symptoms exists, indicating optimism’s potential importance in clinical practice; bolstering optimism may benefit most patients regardless of the amount of life stressors they experience (Joseph & Linley, 2005; Seligman et al., 2005; Schueller & Seligman, 2008).

Daily Spiritual Experiences. Contrary to the hypothesis, daily spiritual experiences did not moderate the association between negative life events and depressive symptoms in the entire sample. Little research has looked at the role of daily spiritual experiences in psychological health or its role as a moderator of the relationship between life stress and depressive symptoms.
Mofidi et al. (2006) reported evidence of a stress-buffering model in which acute stress interacted with daily spiritual experiences to explain variance in depressive symptoms in a sample of ethnically diverse adults from the community. The present findings, however, do not support daily spiritual experiences as a buffer of stress and depressive symptoms. One explanation for the different findings may stem from the assessment of stress: the present study quantified life stress by the number of negative life events reported for the previous year, whereas Mofidi et al. dichotomized life stress based on experience of “…significant losses or really terrible things” during the past 2 years (pp. 976). Having daily spiritual experiences can reinforce a person’s identity as a spiritual being and foster interpretation of life events as being a meaningful part of a spiritual journey (Gall et al., 2005). Assigning spiritual meaning in situations involving trauma and death may have a greater effect than attempting to integrate less severe stressors such as those assessed in the current study whose long-term consequences are not readily apparent into a spiritual journey.

Demographic differences between samples may also help explain differences in results: the present research recruited undergraduates from a Northeastern university, whereas Mofidi et al. used a sample of community-dwelling adults from a Southeastern state. Older individuals tend to be more religious and spiritual than younger people (Markides, 1983). Additionally, the level and function of spirituality may be contingent upon the religious climate that might vary based on geography (Hoge & Carroll, 1973). Lastly, college students may differ from community samples in religiosity or spirituality (White, Fleming, Kim, Catalona, & McMorris, 2008). Future research among different populations will need to be done to determine the influence of demographic variables on a potential moderating effect of daily spiritual experiences in the relationship between negative life events and depressive symptoms.
Private Religious Practices. In the current study, frequency of private religious practices was assessed and did not significantly moderate the association between negative life events and depressive symptoms for the whole sample. This finding is contrary to some research that indicates that private religious practices mitigate the negative effects of life stress on depressive symptoms perhaps by providing a sense of emotional support and enhancing self-efficacy (Gall et al., 2005; Stolley, Buckwalter, & Koenig, 1999). Merely engaging more frequently in private religious practices, as was assessed in the current study, may not be sufficient to mitigate the negative effects of life stress (Baetz, Larson, Marcoux, Brown, & Griffin, 2002; Gall et al.). As an example, prayer style (e.g., conversational, meditational, ritualistic, or petitionary) but not prayer frequency predicted increased life satisfaction among randomly sampled community adults (Gall et al.). Some individuals receiving psychotherapy may wish to explore during session the use of religious and spiritual practices as potential coping mechanisms (McCullough, 1999; Worthington, Kurusu, McCullough, & Sandage, 1996). The present results suggest that among college students only encouraging increased frequency of private religious practices during times of distress may not be an effective technique for reducing depressive symptoms; the quality of and motivation for the practice may be important (Gall et al.).

Organizational Religiousness. Organizational religiousness did not moderate the relationship between negative life events and depressive symptoms for the whole sample. This finding is contrary to research indicating a stress-buffering effect of organizational religiousness on the association between life stress and depressive symptoms (Moreira-Almeida et al., 2006; Smith et al., 2003; Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998; Williams, Larson, Buckler, & Heckmann, 1991), although some research has also found no effect (Smith et al., 2003). Organizational religiousness may buffer the negative effects of life stressors by increasing
emotional and instrumental social support (Moreira-Almeida et al., 2006; Musick et al., 1998), reinforcing comforting belief systems such as those regarding God’s grace and power (Fetzer Institute, 1999; Musick et al., 1998) and by deterring individuals from certain behaviors deemed inappropriate that are often used as maladaptive coping techniques such as substance abuse (Ellison et al., 2001; Martens et al., 2008).

One possible explanation for why the current study did not find a significant moderating effect of organizational religiousness is that the type of stressor is important. Strawbridge et al. (1998) found that organizational religiousness buffered the effect of financial difficulties and poor health on depressive symptoms, but it amplified relationships between family-related problems such as marital struggles and abuse and depressive symptoms. Experiencing life stressors that are viewed negatively by one’s church may increase feelings of guilt, stigmatization, and shame (Ellison et al., 2001); for instance, some churches may expect congregation members to have their “house in order” and may express disapproval of families that appear to have particular difficulty in this area (Strawbridge et al., 1998). The present study assessed organizational religiousness as a potential buffer of the quantity of reported negative life events and did not distinguish between family and nonfamily stressors.

Positive Religious Coping. In the entire sample positive religious coping did not moderate the relationship between negative life events and depressive symptoms contrary to the hypothesis. This nonsignificant finding is inconsistent with the coping literature (Ano & Vasconcelles, 2005; Bjorck & Thurman, 2007; Kolchakian & Sears, 2004; Lee, 2007). Positive religious coping can enhance one’s sense of instrumental support during times of stress (Toth-Cohen, 2004) and increase the probability that negative life events will be interpreted as opportunities for growth, potentially reducing the negative impact of life stress on psychological
well-being (Maltby et al., 2003). The current study differs from most previous research on positive religious coping and stress in that it investigated cumulative, rather than acute, life stressors. Religious coping responses to life stressors may be most effective when individuals are able to use their existing religious belief systems to attribute positive meaning to stressors (Park, Cohen, & Herb, 1990), yet finding meaning in stress may be easier in instances of a single severe stressor than multiple moderate stressors (Bjorck & Thurman, 2007).

In one study that did examine the effect of cumulative life stress on depressive symptoms, Bjorck and Thurman (2007) found that positive religious coping was a significant moderator in a sample of adult members of a conservative Protestant congregation. This sample may differ from the sample used in the current study in their view of life stressors. Cohen and Hill (2007) found that Protestants tend to report higher levels of intrinsic religious motivation than other religions, and Park et al. (1990) reported that individuals with higher intrinsic religious motivation are more likely to view life stressors as challenges from God and opportunities to grow in one’s faith. Viewing challenges as opportunities may facilitate effective religious coping for multiple stressors by increasing hopefulness and positive expectancies about the future (Bjorck & Thurman, 2007; Fitchett et al., 1999). Individuals in the present sample represent diverse religious backgrounds that may contribute to differences in how participants make meaning out of stressful situations. For example, Catholics may be more likely than other religious groups to respond to stress by engaging in rituals such as confession intended to reduce guilt associated with being responsible for the stress (Tix & Frazier, 1998). Jewish individuals may be more likely to find meaning in stress based on how stressors relate to their community or ethnic group; whereas, Protestants may be more likely to relate the stressor to a personal spiritual journey (Cohen & Hill, 2005). Accounting for degree of intrinsic religious motivation in future
research may help specify when positive religious coping moderates negative life events and depressive symptoms.

**Negative Religious Coping.** For the entire sample negative religious coping did not significantly moderate negative life events and depressive symptoms. This was inconsistent with the hypothesis; however, little research exists on this subject (Bjorck & Thurman, 2007), so it is not clear if these findings represent a unique effect. The tendency to view God as a harsh judge who will abandon individuals in distress is substantially less common than more benign or benevolent views of God (Moreira-Almeida et al., 2006; Pargament et al., 1998), and, as supported in the current study, is significantly independently associated with increased depressive symptoms (Smith et al., 2003). Individuals frequently employing negative religious coping might maintain elevated levels of perceived stress even in the absence of objective stressors because they are psychologically burdened with fear of punishment and abandonment (Ano & Vasconcelles, 2005). It may be interesting to assess how negative religious coping moderates the association between perceived rather than objective stress and depressive symptoms. If an amplifying effect were found, clinicians working with clients high in negative religious coping may reduce depressive symptoms substantially by focusing efforts on reducing perceived stress.

**Hypothesis 6: Prevalence of Outcome and Predictor Variables by Ethnic Group**

Due to higher likelihood of exposure to risk factors relative to Whites, some research has found ethnic minorities to be at increased risk for depressive symptoms (Cuella & Roberts, 1997; Riolo, Nguyen, Greden, & King, 2005; Wight et al., 2005); however, some studies have also indicated little to no ethnic differences in depressive symptoms (Saluja et al., 2004; Mendelson et al., 2008), and measurement bias does not appear to explain these noneffects (Breslau et al.,
The present study found no significant differences among ethnic groups in their level of depressive symptoms. This may indicate that the particular minority students used in the present sample do not experience increased risk factors for depressive symptoms relative to Whites, or that they have higher levels of factors that protect from depressive symptoms that counteract relatively higher exposure to risk factors. For example, factors that may protect from depressive symptoms in a minority individual more so than for a nonminority include family cohesiveness and emotional and instrumental support from the community (Breslau et al., 2006; Lewis-Coles & Constantine, 2006; Locke et al., 2007). It is also possible that the findings are influenced by the overall demographics of the sample. Specifically, for minority students being successfully enrolled in college and attending a university comprised primarily of members of ethnic minorities may be predictive of increased psychological health (Goldsmith, 2004; Lewinsohn, Hoferman, & Rosenbaum, 1988; Morenoff et al., 2007).

Similar to this study’s findings on depressive symptoms, no ethnic differences were found for negative life events, trait hope, or negative religious coping. Based on studies of minority groups showing relatively higher exposure to life stressors such as racism (Lewis-Coles & Constantine, 2006) and acculturation (Ramos, 2005; Torres & Rollock, 2007) and fewer resources available for achieving goals (Cuella & Roberts, 1997; Plant & Sachs-Ericsson, 2004), it is surprising that ethnic minorities did not differ from Whites in trait hope and negative life events. Despite expectations that race-related barriers to goal achievement would hinder the development of hope (Snyder, 1995), Chang and Banks (2007) found, similar to the present study, that minority college students were as hopeful as or more hopeful than White students. Early exposure to race-related barriers may enhance some children’s ability to identify and use available resources to address obstacles and to anticipate and prevent race-related stressors.
Successfully overcoming race-related obstacles may reinforce agentic thinking by increasing belief in one’s ability to achieve goals despite barriers. Minority students in the present sample, because they have successfully completed secondary education and enrolled in college, may represent a greater proportion of those who, at some point during their lives, learned to use race-related barriers as opportunities for hope enhancement (Chang & Banks, 2007). In order to design more effective interventions for hope, it may be important to identify developmental variables or conditions that predict when individuals are most likely to increase their level of hope as a response to racism-related stress; prospective and longitudinal research may be the most appropriate way to accomplish this task.

Little research has investigated ethnic differences in optimism (Burke et al., 2000); in the current study, Hispanics reported significantly higher levels of dispositional optimism than Blacks but not Whites or Asians. Chambers (2006) found that Black undergraduate students did not significantly differ from Hispanic students on the Life Orientation Test; other studies have also failed to find significant ethnic differences in optimism levels (Chang, 1996; Grote et al., 2007). Hence, it is not clear why Hispanics in this sample reported higher optimism than Blacks. Potentially, the fact that Hispanics represent the largest ethnic group in the sample impacts optimism; indeed, Goldsmith (2004) found that the ethnic makeup of other students and teachers significantly predicted levels of optimism among 24,599 eighth-graders. Because of their high representation in the present sample, Hispanics’ optimism may have been bolstered by a stronger sense of ethnic identity (Beiser & Hou, 2006; Phinney, 1990, 1992), a construct related to better mental health and beliefs about the future (Mossakowski, 2003; Adelabu, 2008). Future research should investigate the impact of ethnic composition and ethnic identity on levels of optimism.
No differences in optimism were found between Hispanics and Whites or Asians, which suggests that other factors specific to Blacks may explain their lower level of optimism. For example, in addition to individual racism Blacks have been exposed to high rates of institutional and cultural racism for decades despite prevention policies and social change efforts (Lewis-Coles & Constantine, 2006). Continual disappointment in the effectiveness of these efforts in spite of optimistic expectations may lead to more pessimistic attitudes regarding the elimination of race-related obstacles (Milam et al., 2004; Petersen, 2000). More research is needed to determine if racism and failure of efforts to reduce racism negatively affects optimism.

In this study, Blacks reported higher levels of daily spiritual experiences than Hispanics, Whites, and Asians. Additionally, for private religious practices Blacks reported significantly higher levels than Hispanics and Whites; for organizational religiousness Blacks reported significantly higher levels than Hispanics; and for positive religious coping Blacks reported significantly higher levels than Whites. This strong tendency for Blacks to report greater amounts of religiosity and spirituality is consistent with other research supporting the centrality of religion to the Black community (Ellison, 1995; Mattis, Fontenot, & Hatcher-Kay, 2003; Utsey, Adams, & Bolden, 2000).

During the 19th and 20th centuries in response to widespread racism the Black church became very influential in providing coping resources and strategies to its congregations (Lewis-Coles & Constantine, 2006). Across a wide variety of samples spanning age and socioeconomic status, and using varied indicators including religious service attendance, daily prayer, church membership status and endorsing self-reported spirituality and religiosity items Blacks tend to score significantly higher in levels of religiosity and spirituality than Whites (Taylor, Chatters, Jayakody, & Levin, 1996).
The current results suggest that cultural differences in the degree of reported religiosity and spirituality exist among college students, potentially influencing how clinicians working with these particular populations should approach treatment. Manualized cognitive therapies using standard techniques such as challenging cognitive distortions have been adapted to include religious language and have been found to be as or more effective than original treatments in treating depression among religious clients (McCullough, 1999). Such approaches may be particularly beneficial within the Black community (Worthington et al., 1996).

**Hypothesis 7: Study Variables as Moderators in Analyses Stratified by Ethnicity**

*Trait Hope.* Although trait hope was a significant moderator of negative life events and depressive symptoms for the entire sample, it did not reach significance in any of the individual ethnic groups, which is inconsistent with previous research (Reff et al., 2005; Snyder et al., 1991). Sample size within individual ethnic groups may not have provided sufficient power to detect a somewhat weak effect. The absence of a possible stress-buffering effect in any group, however, does not negate the potential importance of trait hope for psychological health. In the present study significant main effects occurred; trait hope was significantly predictive of reduced depressive symptoms for Blacks, Hispanics, and Whites over and above the effects of age, gender, and negative life events. Main effects may be due to increased cognitive flexibility, positive affect, and motivation in dealing with life stress (Roesch & Vaughn, 2006; Snyder et al., 1991). Interventions that increase hope can lead to greater positive emotions and a sense of meaning in life (Seligman et al., 2006). Although hope theory suggests that hope may play an important role in coping with distress (Lazarus, 1999; Snyder et al., 1991), stratified analyses did not support hope as a moderator of cumulative stress and depressive symptoms. A larger sample size may be needed to detect significant differences. Alternatively, differentiating between
different types of life stressors may specify the variables for which hope moderates the influence of life stress on depressive symptoms (Maton, 1989).

**Dispositional Optimism.** A significant moderating effect of optimism on the relationship between negative life events and depressive symptoms was only found in Whites. This concurs with previous research on the potential stress-buffering effect of optimism conducted in predominately White samples (Chang, 1998a; Chang, 2002; Chang & Sanna, 2003; Hirsch, Wolford, et al., 2007; Scheier & Carver, 1985). Individuals with high levels of optimism may be more likely to view life stressors as challenges and opportunities for growth and to perceive greater resources for dealing with challenges (Chang, 1998a). Such appraisals can lead to more adaptive coping such as direct engagement and persistence (Scheier & Carver, 1992), possibly protecting from depressive symptoms during times of distress via effective problem-solving (Chang, 1998a).

The moderating effect of optimism, however, was not found in non-White individuals. Potentially important variables not considered in this study are racism-related stress and challenges particular to being an ethnic-minority group member. If members of ethnic minority groups perceive life stress to be race-related, they may be more likely to appraise stressors as threatening, increasing maladaptive coping responses such as emotion-focused coping (Ong & Edwards, 2008). It is also likely that despite having an optimistic view of the future an individual would be subject to the detrimental effects of stress resulting from racism (Lewis-Coles & Constantine, 2006). Members of minority groups may also have witnessed family members and peers unsuccessfully attempt to combat the negative effects of racism-related stress, possibly reducing their belief that challenging circumstances will turn out well (Goldsmith, 2004). The role of racism-related stress in the development of optimism or pessimism needs to be further
explored to identify possible interventions that could foster optimistic beliefs for minorities facing challenging circumstances such as discussing narratives of successful optimism under similar circumstances (Snyder et al., 2006).

Concurrent with previous research on optimism and depressive symptoms (Andersson, 1996; Chang, 1996; Scheier et al., 1994), in the present study optimism was significantly predictive of reduced depressive symptoms for Blacks, Hispanics, and Whites after controlling age, gender, and negative life events. Efforts to increase optimism have been promising. Individuals identified as at risk for depression have participated in group interventions delivered in live settings or via the Internet, and results have shown increased optimism and decreased depressive symptoms compared to placebo-controlled groups (Schueller & Seligman, 2008). The robust negative relationship between optimism and depressive symptoms in the present sample suggests that most college students despite their level of life stress may benefit from increased optimism. Current results also suggest that for Whites in particular optimism may be especially beneficial in the context of multiple life stressors. For members of ethnic minority groups, it may be important to assess for the tendency to minimize one’s own positive expectancies during times of stress based upon observing negative experiences of others within one’s ethnic group (Goldsmith, 2004).

*Daily Spiritual Experiences.* Although daily spiritual experiences did not moderate negative life events and depressive symptoms for the entire sample, ethnically stratified analyses revealed a significant moderation effect among Whites. Additionally, a main effect of daily spiritual experiences predicting decreased depressive symptoms when controlling for age, gender, and negative life events was found only in Whites. These results suggest that daily having experiences such as inner peace, closeness with God, and admiration of natural beauty
may play a salutary role in psychological health for Whites more so than for other ethnic groups. This is somewhat surprising given recent research that was unable to detect a significant moderating effect of ethnicity in the relationship between spirituality and depressive symptoms (Desrosiers & Miller, 2007; Mofidi et al., 2006, 2007). It should be noted, however, that the present study assessed for moderating effects within separate ethnic groups individually but did not directly test for a moderating effect of ethnicity; therefore, the current study may not be statistically comparable to past research (Desrosiers & Miller, 2007; Mofidi et al., 2006, 2007).

It is possible that spirituality can serve as a beneficial coping tool for members of minority groups under stress (Perez, 2002), but minority groups’ decreased use of mental health resources may counteract any reductions in depressive symptoms attributable to spirituality (Baez & Hernandez, 2001). Specifically, more spiritual minorities may avoid mental health services because of a belief that their faith should be sufficient to treat emotional distress (Mahan, 2005), or that they will be stigmatized for unusual spiritual practices such as visiting with deceased loved ones during times of distress (Constantine et al., 2005; Mahan, 2005). Clinicians working with minority clients high in spirituality should be wary of culture-specific hindrances to engaging in and following through with treatment, and clinicians should be ready to use creative solutions to barriers such as including clergy or family in treatment (Baez & Hernandez, 2001). Future research is needed to assess how spirituality may influence minority college students’ perceptions of mental health treatments and how this might impact depressive symptoms.

Private Religious Practices. In Blacks and Whites private religious practices significantly moderated the association between negative life events and depressive symptoms. In these ethnic groups the relationship between negative life events and depressive symptoms is weakened at
higher levels of private religious practices including praying, meditating, scripture reading, saying grace before meals, and consuming religious media (Fetzer Institute, 1999). In Whites and Asians only a significant main effect was found; private religious practices significantly predicted decreased depressive symptoms after controlling for age, gender, and negative life events. The variation in results across ethnic groups highlights the possible role of cultural factors in the function of religiosity.

For Blacks and Whites in the present sample engaging in private religious practices when facing multiple life stressors may mitigate the negative effects of stress by decreasing the probability that stressors will be judged as threatening, by providing a sense of meaning and emotional support, and by increasing optimism and motivation to deal with problems (Gall et al., 2005; Mattis et al., 2003; Stolley, Buckwalter, & Koenig, 1999). The lack of effect in Hispanics and Asians may be explained by considering the type of religious practices. Poloma and Pendleton (1990) found that conversational and meditational praying was related to enhanced well-being, whereas ritualistic and petitionary praying was related to decreased well-being. Hispanics who have a strong connection to the Catholic Church, which is known for its traditions and rituals (Christiano, 1993), and Asians with a heritage of Eastern religions emphasizing formality, tradition, and hierarchy (Carnes & Fenggang, 2004) may tend to engage in more ritualistic practices than Blacks or Whites. More research assessing for type of private religious practice is needed to test this possibility.

In addition to the potential importance of the type of religious practice, the type of stressor may be important to understanding the moderating effect of private religious practices. For example, in a large community sample, the negative effects of family problems were exacerbated by private religious practices, perhaps by increasing the shame and dissonance...
individuals feel for failing in their family life, an area that many religious belief systems (Strawbridge et al., 2003) as well as the Hispanic and Asian cultures in particular (Chang & Subramaniam, 2008; Fuligni, 2001) assign strong spiritual meaning. Further, Hispanics and Asians may be exposed to challenges that increase familial stress such as generational differences in acculturation, which can lead to parent-child values gaps and elevate family conflict (Park, Vo, & Tsong, 2009; Torres & Rollock, 2007). Clinicians working with religious or spiritual clients, particularly Hispanics and Asians who report the use of private religious practices to cope with stress, may wish to assess for familial conflict and potential feelings of guilt or shame.

*Organizational Religiousness.* In the current study, organizational religiousness moderated the relationship between negative life events and depressive symptoms for Whites and Blacks but not Hispanics nor Asians. In significant moderation models the relationship between negative life events and depressive symptoms was weakened at higher levels of organizational religiousness. After controlling for age, gender, and negative life events, organizational religiousness significantly predicted decreased depressive symptoms in Whites only.

The significant moderating effect of organizational religiousness in Blacks and Whites may indicate that involvement in a religious group provides access to beneficial emotional and instrumental social support when a person experiences elevated stress (Moreira-Almeida et al., 2006; Musick et al., 1998). Additionally, consistent religious involvement may reinforce belief systems regarding one’s spiritual or religious identity and promote faith that God will intervene or give the strength needed to deal with the stress (Fetzer Institute, 1999; Musick et al., 1998).

It is not entirely clear why organizational religiousness does not appear to function similarly in Hispanics or Asians. For Asians, a heavy cultural influence on “saving face” may
prevent them from accessing the social resources available in an organized religion because they attempt to keep their problems hidden from others (Chang & Subramaniam, 2008). Clinicians working with religious Asians should be careful not to create cultural distress by over-encouraging them to seek help for problems that others in their congregation may consider shameful (Berg & Jaya, 1993). It may be important for future research to focus on examination of the association between “saving face” and the use of organized religious support among religious Asian college students who may share different values and customs than their parents (Fuligni, 2001).

For Hispanics a potentially important variable that was not assessed in the current study is motivation (i.e., intrinsic or extrinsic) for religious involvement, which can be important to understanding the relationship between religiosity and depressive symptoms (Smith et al., 2003). Since Spain colonized Latin America over 500 years ago, the Hispanic culture has developed a very strong tie to the Catholic Church (Christiano, 1993). Indeed, a large majority of Hispanics in the present sample identified themselves as being Catholic, a religion rich in tradition and rituals (Christiano, 1993). Catholic undergraduates scored significantly higher in extrinsic and lower in intrinsic religious motivation than Protestant students (Cohen & Hill, 2007). Hispanic students in the present sample high in organizational religiousness may be motivated by cultural or other extrinsic factors and may not benefit from possessing a strong religious or spiritual identification (Smith et al., 2003). Clinicians working with religious or spiritual clients should be careful not to use religious involvement as a marker for religiosity or religious identification; rather, motivation for attendance may be beneficial to explore. Future studies investigating the role of organizational religiousness in depressive symptoms should control for extrinsic and intrinsic motivation.
Positive Religious Coping. Although positive religious coping did not significantly moderate negative and potentially traumatic life events and depressive symptoms in the entire sample, it was a significant moderator in Whites, and there was a clinically meaningful trend in Blacks. In both cases the relationship between negative life events and depressive symptoms was weaker at high versus low levels of positive religious coping. This relationship is consistent with the limited research on positive religious coping as a moderator of cumulative life stress and depressive symptoms (Bjorck & Thurman, 2007). Individuals who attempt to understand life stress within the context of a spiritual world, who look to God for emotional and instrumental support, and who work proactively with God to address life stressors may be protected from the negative effects of stress via adaptive cognitive appraisals (Bjorck & Thurman, 2007; Maltby & Liza, 2003; Musick et al., 1998). Specifically, people who use positive religious coping are more likely to view life stressors as opportunities for spiritual growth and development (Maltby & Liza, 2003; Park et al., 1990) and to perceive greater religious or spiritual resources for addressing difficult circumstances (Bjorck & Thurman, 2007; Musick et al., 1998). This may be particularly true in the Black community because of a heavy emphasis on showing faith in God, particularly when someone is in need (Mattis et al., 2002). Many religious Whites also focus on faith rather than works as being necessary for identification as a child of God (Ward, 2008), and a consistent emphasis of faith facilitates trusting God during times of higher stress (Park et al., 1990).

Positive religious coping did not moderate life stressors and depressive symptoms among Hispanics and Asians. Although it was not tested in this study, the relationships between the Hispanic community and Catholic Church (Christiano, 1993) and between the Asian community and Eastern religious philosophies (Carnes & Fenggang, 2004) may impact Hispanics’ and
Asians’ motivation for religious behaviors. Intrinsic religiousness may be an important condition for positive religious coping to have a salutary impact (Park et al., 1990), and attempting to employ religious coping strategies in times of high stress may be ineffective if one does not possess a strong religious or spiritual identification. Before drawing conclusions, however, future research is needed to assess for the role of extrinsic religious motivation in the relationship of positive religious coping and depressive symptoms.

**Negative Religious Coping.** In the current sample, negative religious coping significantly moderated negative life events and depressive symptoms in only Asians, such that the relationship between negative life events and depressive symptoms was significantly stronger at higher levels of negative religious coping. After controlling for age, gender, and negative life events, there was a significant main effect in which negative religious coping was related to increased depressive symptoms in Blacks, Hispanics, and Whites, but not Asians.

Among Asians, the group with the least statistical power in the current sample, an interaction was observed. For Asians who believe that they have failed and are, consequently, being punished for their mistakes or abandoned by God, the relationship between negative life events and depressive symptoms was significantly exacerbated. Asians may be more sensitive to failure and punishment than members of other ethnic groups. Castro and Rice (2003) found that Asians worry more about making mistakes, report higher expectations from authority figures, and expect to be criticized more when they make a mistake. These maladaptive patterns are related to perceptions of God as a harsh judge who is ready to punish those who sin (Corrigan, 1998). This punitive image of God may lead some Asian students to live in fear of sinning (Castro & Rice, 2003), and this fear can increase the negative impact of life stressors, particularly if stressors are interpreted as a result of personal failure. Clinicians working with
Asian students who are open to discussing their religious beliefs may wish to assess for negative perceptions of God as a harsh judge in order to understand their clients’ interpretation of life stressors and to help foster a more adaptive view of life stress. Caution should be used in challenging clients’ negative views of God (Worthington et al., 1996).

Limitations and Future Research

The current study has several strengths including the use of an ethnically diverse sample and psychometrically supported instrumentation, but results must also be viewed in the context of limitations. As an example, use of cross-sectional data precludes the examination of causal inferences; however, hypotheses for this study were not causal in nature and analyses were limited to moderation models that are appropriate for cross-sectional data (Finney, Mitchell, Croncite, & Moos, 1984). Investigation of causality may be particularly important for associations between variables that are bidirectional in nature. For instance, although negative life events exert an influence on depressive symptoms, the reverse may also be true (Kendler et al., 1999). Similarly, hopeful thinking may reduce depressive symptoms, but depressive symptoms may also reduce hopeful thinking (Gum, Snyder, & Duncan, 2006).

Although use of a diverse sample is a strength of this study, small sample size precluded examination of ethnicity as a potential moderator (Aiken & West, 1991); the present study assessed for moderating effects of psychological and religious variables among four separate groups that differed by ethnicity. Future research on depressive symptoms would benefit from the examination of possible three-way interactions between ethnic status, negative life events, and potential positive psychological and religious moderators (Dawson & Richter, 2006). Further, sample size for Asian respondents was small enough to limit interpretability and generalizability. Although the majority of the main and interaction effects tested within Asians
were nonsignificant, an examination of the unstandardized beta coefficients indicates that a relationship comparable to or stronger than the other ethnic groups was often found within Asians but may have simply lacked the power to achieve significance. In general, psychosocial research should always strive to incorporate diversity into research samples. It should also be noted that some ethnic differences in the main and moderating effects of the religious and spiritual variables may be explained by differences in religious affiliation. Although controlling for religious affiliation when conducting ethnically stratified analyses would have significantly reduced power because of overrepresentation in certain religions (e.g., over three fourths of Hispanics reported Catholicism) (Monroe, 2000), examining main and moderating effects within separate religious groups may be an important extension of this research.

It is not clear how well the findings from the present study may generalize to other collegiate or ethnically-diverse samples or to community or clinical samples. Although the use of undergraduate students is often cited as a general limitation of social sciences research, studying depressive symptoms within college samples is important due to the potentially increasing prevalence of major depressive disorder among this group (ACHA, 2000; ACHA, 2006) and the increased risk of lifetime recurrence for earlier onset depressive disorders (APA, 2000). In addition, selection bias may exist in the ethnically-diverse participants of the current study because those minority-group members with fewer risk factors or more adaptive patterns of resiliency may be more likely to pursue and attend college (Chang & Banks, 2007).

Use of self-report measures may be problematic, as this methodology is subject to recall bias and there may be a lack of assurance that a respondent understands the meaning of a question (Howard, 1994; Patten, 2003; Spector, 1994). Further, the Life Events Scale used in the present study (Tomoda, 1997) has limited reliability and validity data to support it and, although
the cumulative checklist method of assessing negative life events can be convenient, this
approach neglects significant information regarding the subjective impact of a negative life event
(Horowitz, Schaefer, Hiroto, Wilner, & Levin, 1977). Negative life events vary in the degree to
which they are actually stressful (Horowitz et al.); one method of capturing this variability in
future research may be to use weighted checklists that assign values to each stressor based on
normative reporting (e.g., Holmes & Rahe, 1967). Another, simpler method is to assess one’s
level of perceived stress (e.g., Chang, 1998a), but this method may lack objectivity (Lewinsohn,
Rohde, & Gau, 2003). Despite their shortcomings, life events checklists provide a relatively
objective and accurate assessment of the experience of life stress (Lewinsohn et al., 2003).

In somewhat stark contrast to the lack of support for the Life Events Scale used in this
study, a strength of the present research is the use of additional instrumentation that has adequate
to excellent reliability and validity in use with college students and ethnically diverse
populations. For example, the BDI-II (Beck et al., 1996) has been successfully used and found to
be psychometrically sound in several ethnically diverse groups (Dutton et al., 2004; Carmody,
2005; Van Voorhis & Blumentritt, 2007) as has the THS (Roesch & Vaughn, 2006) and LOT-R
(Burke et al., 2000). The BMMRS was created to address decades of methodological
inconsistency in the study of religion and spirituality (George et al., 2000; McCullough &
Larson, 1999; Mofidi et al., 2007; Smith et al., 2003), and it also has adequate psychometric
properties in Blacks and Whites (Neff, 2006). Even though research supports use of these
instruments in non-Whites, an interesting finding of the current study is that moderation effects
were most often significant among Whites; the BDI-II (Beck et al., 1996), THS (Snyder et al.,
1991), LOT-R (Scheier & Carver, 1994), and subscales of the BMMRS (see Fetzer Institute,
1999) were developed using primarily White samples. Failing to consider minority groups when
developing instruments may neglect their unique contribution to the meaning of measured constructs (Helms, 2006). It may be possible however, that factors related to ethnicity such as income level influenced the relatively stronger associations among Whites.

Because the present study is a secondary analysis of data collected for a larger project, potentially important variables were not assessed thoroughly or at all. For instance, although income was assessed in the original study, substantial missing data (30.3%) prevented its use in analyses. Income levels have a significant association with levels of depressive symptoms, with lower income increasing risk for depressive symptoms (Lorant et al., 2003) and with income disparities greater among ethnic minority groups than Whites (Hudson, 2005). Future research in this area should control for the effects of income. Another neglected variable is racism-related stress, which can be a significant source of distress for members of ethnic minority groups and is positively related to depressive symptomology (Clark, Anderson, Clark, & Williams, 1999; Lewis-Coles & Constantine, 2006; Yip, Gee, & Takeuchi, 2008). Further, variables examined for moderator status in the present study such as optimism may differ in their association with racism-related stress as compared to stress not related to racism (Ong & Edwards, 2008). To more fully understand the association of buffering variables in ethnic minorities, both racism-related and non-racism-related stress should be examined.

Finally, the ethnic classification used in the current study may be a taxonomical limitation. Although Hispanics may share a common Spanish ancestry, they vary widely in their cultural background based on country and region (Hunt, Schneider, & Comer, 2004). Indeed, research distinguishing between Mexican-Americans, Puerto Ricans, and Cuban Americans has found substantial differences in risk factors for and prevalence of depression (Oquendo et al., 2004). This classification approach may have affected the results of the current research.
Hispanics were the only ethnic group in which none of the potential moderators were significant. If the sample of Hispanics used in the current study represented diverse cultural backgrounds, associations between variables may have been harder to detect because of lack of consistency within the broadly-defined ethnic group (Hunt et al., 2004). Future research examining potential stress-buffering effects of positive psychological and religious or spiritual variables should use more specific labels of race, ethnicity and culture.

Conclusions

The current study extends research on positive psychological and religious and spiritual variables by examining their association with depressive symptoms and their role as moderators of the relationship between negative and potentially traumatic life events and depressive symptoms across different ethnic groups. Results generally supported a salutary relationship between the study variables and depressive symptoms; however, these relationships differed by ethnicity.

Negative life events were moderately predictive of increased depressive symptoms regardless of ethnicity. This relationship, however, is not inevitable. Increased hope weakened the association of negative life events and depressive symptoms, yet this moderating effect of hope did not appear to be statistically significant within any individual ethnic group. Optimism, on the other hand, significantly weakened the effect of negative life events among White participants only, suggesting that cultural factors such as exposure to race-related stressors may affect the potentially stress-buffering effect of optimism when facing multiple life stressors.

Accounting for ethnicity was especially important in understanding the role of religious and spiritual variables in the relationship between negative life events and depressive symptoms. In this diverse sample overall none of the religious and spiritual variables weakened the
association of negative life events and depressive symptoms. A closer look at each ethnic group, however, revealed that religious and spiritual variables tended to be associated, albeit weakly, with fewer depressive symptoms in Blacks and Whites and were unrelated in Hispanics and Asians. Among Blacks and Whites private religious practices, organizational religiousness, and positive religious coping, in addition to daily spiritual experiences for Whites, significantly moderated the effect of negative life events. Negative religious coping predicted increased depressive symptoms in each ethnic group and also exacerbated the relationship between negative life events and depressive symptoms in Asians.

In clinical practice the variables from the present study may be directly or indirectly related to treatment goals. Hope and optimism, which tended to be moderately to strongly associated with fewer depressive symptoms in each ethnic group, may be enhanced with dedicated interventions or by incorporating specific exercises such as positive self-statements and expressing gratitude, into existing treatments. The present results suggest that optimism may be particularly beneficial for White college students who are exposed to several life stressors by enabling them to see positive aspects of stressful situations and remain engaged in efforts to overcome the stress. Although religious and spiritual variables tend to be related to decreased depressive symptoms in Blacks and Whites particularly those reporting high levels of negative life events, the current results found no such effect for Hispanics and Asians. It may be important for clinicians to consider culturally-influenced factors such as the degree of extrinsic versus intrinsic motivation for being religious or spiritual. Some clients may wish to incorporate their religiosity and spirituality into treatment sessions; in this case, clinicians should be aware of the potential implications of ethnic and cultural background.
Although previous studies have investigated the potentially moderating effects of several of the variables used in the current research such as hope, optimism, and positive and negative religious coping, this is the first study that has employed the same methodology and instrumentation to simultaneously assess negative life events, potential moderators, and depressive symptoms across four different ethnic groups. The current findings are at least a first step toward gaining a more comprehensive understanding of the role that ethnic differences might play in the mechanisms contributing to the development or prevention of psychopathology, and it is hoped that they might be used to inform the design of targeted and effective, culturally-specific interventions that increase hope and optimism and that incorporate elements of religiosity and spirituality. The current results do not provide a definitive analysis of the topic, but they do support the potential utility of positive psychological and religious and spiritual variables in the treatment of depressive symptoms occurring as a result of the experience of negative and potentially traumatic life events.
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