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Interrelations Among Personality, Religious and Nonreligious Coping, and Mental Health

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A Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

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ABSTRACT

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Religion's involvement in the coping process remains an underexplored area of coping research despite most psychologists agreeing that religion is integral to this process for many individuals. Interestingly, there is some disagreement among psychologists regarding whether religious coping can be "reduced" to nonreligious coping (Siegel, Anderman, & Schrimshaw, 2001). To better understand how religious and nonreligious coping contribute uniquely to the prediction of mental health outcomes, the study's first and second goals were to determine the incremental validity of each type of coping, above and beyond the other. The study's third goal was to determine whether select coping strategies mediated the relationships between personality and mental health, thereby elucidating the nature of their interrelations. Finally, to further the aim of positive psychology, the current study incorporated positive mental health outcomes into its analyses, as well as negative mental health outcomes. A sample of 300 college students completed a packet of questionnaires that included measures of religious and nonreligious coping strategies, personality, depression, anxiety, stress, hopefulness, quality-of-life, and life satisfaction. Hierarchical multiple regression analyses were used to test the incremental validity of religious and nonreligious coping strategies; whereas structural equation modeling was used to explore whether any of the coping strategies mediated the relationships between personality and mental health. Results suggest that religious and nonreligious coping both provide unique information about mental health outcomes. However, religious and nonreligious coping strategies appear to relate differently to mental health, depending on whether positive or negative outcomes are studied. This finding provides further evidence that a state of flourishing is something different from the mere absence of pathology.

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INTRODUCTION

Although psychologists generally agree that religion is prominent in the lives of many individuals, as well as influential in the coping process, religious coping research is still in its infancy. In fact, a search of the PsychINFO database in May of 2009 using the key words "coping" and "coping and religion" revealed that less than 3% of all coping studies have included a religion component. Interestingly, there is some disagreement among psychologists regarding whether religious coping contributes uniquely to the prediction of mental health outcomes or whether its contributions can be better explained by nonreligious coping strategies (Siegel, Anderman, & Schrimshaw, 2001). For this reason, the current study's first goal was to determine whether religious coping accounted for any unique variance in the prediction of mental health, above and beyond nonreligious coping strategies. The current study's second goal was to test the opposite: whether nonreligious coping strategies accounted for unique variance in mental health, above and beyond religious coping strategies.

Another area of research still in its infancy is that of positive psychology. Although the remediation of distress is clearly still very important, psychology must also identify and cultivate the benefits of positive emotions and strengths. According to Keyes and Haidt (2003), the aim of positive psychology is to help people thrive rather than just exist. Studying positive human qualities such as hope and optimism is especially important because these attributes build resilience and buffer against misfortune and psychopathology (Farran, Herth, & Popovich, 1995; Seligman & Csikszentmihalyi, 2000). Therefore, a central focus of the current study was to include the measurement of positive mental health outcomes, as well as negative mental health outcomes.

Finally, given the well documented mediating role of coping (see Bolger, 1990; Maxim, 2000; Pruchno & Resch, 1989; Valentiner, Holahan, & Moos, 1994), the current study's third

goal was to determine whether select coping strategies mediated the relationships between personality and mental health. The study of personality and coping have been practically inseparable throughout much of psychology's history (Suls, David, & Harvey, 1996) and because both have demonstrated clear associations with mental health outcomes, the current study sought to clarify the nature of their relationships with one another.

Coping Research: A Brief History

The study of coping and coping strategies is a prominent issue in psychological research and has been explored by social, health, personality, and clinical psychologists alike. Interestingly, coping theory can be traced back to Sigmund Freud's (1894/1962) early writings on psychoanalytic formulations and defense mechanisms. His work, and the work of other psychoanalysts, represents what Suls et al. (1996) have dubbed as the first of three generations or phases of coping research. The second phase, which began in the 1960s and continued through the 1980s, represented a renewal of sorts for the study of coping (i.e., Billings & Moos, 1981; Heppner, 1988; Lazarus & Folkman, 1984). The third phase began in the late 1980s and is still pertinent today.

First Phase of Coping Research

Early in the first phase of coping research, the psychodynamic perspective purported that coping occurred when defense mechanisms dealt with intrapsychic conflicts. Much later, external stressors were also included as potential sources of conflict (Haan, 1977). Within psychodynamic theory, defense mechanisms are conceptualized as unconscious processes through which one's experience of stressful events is altered. Prominent examples of defense mechanisms include dissociation, repression, and isolation (A. Freud, 1937; S. Freud, 1894/1964).

In 1963, Norma Haan, a seminal figure in the formulation of psychodynamic theories of coping, began arguing that defense mechanisms could be distinguished from coping mechanisms. Defense mechanisms, she argued, were rigid, reality-distorting unconscious processes; whereas

coping mechanisms were flexible, reality-oriented conscious processes. Her arguments proved persuasive for many psychologists and are still widely cited in the coping literature today.

Also worth noting from the first phase of coping research was an interest in the various styles of coping. For example, coping styles such as repression versus sensitization (Byrne, 1961) and coping versus avoidance (Goldstein, 1973) were proposed during this period. These styles were trait-like and reflected one's tendency to approach or avoid stressful situations. Eventually, these styles fell out of favor when personality and coping became equated with one another (Suls et al., 1996).

Second Phase of Coping Research

The second wave of interest in coping emerged in the 1960s and was spearheaded by the work of Lazarus and several of his close associates. Lazarus (1966) wrote that three separate, but related, processes are initiated when an individual experiences stress: a primary appraisal, a secondary appraisal, and the coping process. The primary appraisal involves perceiving a potentially dangerous situation, whereas the secondary appraisal involves selecting a response to the situation. The actual execution of a response, however, is considered the coping process. Lazarus also explained that these processes can cycle in a stressful situation if, for example, the initial coping strategy proves to be less effective than expected.

When Lazarus (1966) first proposed his model of stress and coping, it represented a notable break from most earlier psychoanalytic theories. Lazarus' model was different because he argued that coping generally involved conscious strategies that were focused primarily on ameliorating external stressors (McCrae, 1984). The second wave of interest in coping was also distinguishable from the first wave because it deemphasized the previous trait-like nature of coping styles and instead highlighted the transactional nature of coping (Folkman & Lazarus, 1985; Lazarus, 1966; Lazarus & Folkman, 1984).

Within the transactional perspective, two fundamental types of coping have been identified: emotion-focused coping and problem-focused coping. Lazarus (1993) explains that the goal of problem-focused coping is to modify dysfunctional relationships between the individual and his or her environment by acting on the environment or oneself. An example of problem-focused coping is developing a course of action based on information gathered about a distressing situation so as to modify or remove the stressful situation. The goal of emotion-focused coping is to either modify how the individual attends to the dysfunctional relationship between oneself and the environment or modify the relational meaning of what is happening. An example of emotion-focused coping is reconceptualizing a distressing situation so as to see it differently and subsequently reduce the amount of emotional distress associated with that situation.

According to Lazarus and Folkman (1984), deciding whether to use an emotion- or problem-focused strategy depends on the individual's appraisal of the distressing situation. More specifically, the use of one strategy of coping over another depends largely on the individual's assessment of whether the situation is changeable. When the individual believes that the situation can be changed, a problem-focused coping strategy is likely to be employed. However, when the individual believes that the situation cannot be changed, an emotion-focused coping strategy is likely to be employed.

The transactional perspective of coping was especially noteworthy because it emphasized situational determinants of coping over dispositions or traits. Cohen and Lazarus (1979), citing research from the 1960s and 1970s, argued that because coping strategies frequently vary from situation to situation, traits are largely ineffectual in the prediction of coping behavior. Although some evidence (i.e., Carver, Scheier, & Weintraub 1989; Folkman & Lazarus, 1980, 1985; Terry, 1994) does support Lazarus and Folkman's (1984) arguments about when individuals are most likely to use problem-focused coping strategies versus emotion-focused strategies, a great deal of evidence (discussed below) now links personality and coping.

Third Phase of Coping Research

The third phase in the study of coping represents a union of personality and situational approaches to the prediction of behavior. Interest in personality traits as predictors of behavior waned following the assertion that such constructs were poor predictors of behavior (Mischel, 1968), until Kenrick and Funder (1988) argued that a correlation of .30 between specific behaviors and personality traits, which most studies had reported, was respectable. In fact, closer examination of earlier research suggested that the predictive power of situational factors was rarely better than that of personality traits (Funder & Ozer, 1983). Furthermore, the usefulness of personality traits as predictors of behavior improved markedly when correlations between personality traits and behaviors aggregated across time were tested (Epstein, 1979). Over the years, considerable evidence has been collected to suggest that both situational and personality factors explain a significant portion of variance in coping behavior (e.g., Parkes, 1986; Terry, 1991).

Although the third phase of coping research is still developing, certain fundamental characteristics are already evident. These include equal importance being placed on situational and personality factors in the prediction of coping behavior, as well as an assumption that coping strategies are never inherently adaptive or maladaptive. Most researchers from the second phase of interest in coping shared this assumption, but researchers from the first phase did not.

Kato and Pedersen (2005) define coping strategies as "cognitive, behavioral or physiological processes aimed at diminishing or terminating stress" (p. 147). These strategies can be adaptive and help to counteract stress, or maladaptive and either fail to mitigate the deleterious health effects associated with stress or to exacerbate them (Maes, Leventhal, & Ridder, 1996). Although certain coping strategies are more likely to be adaptive than others, no single strategy is adaptive across every situation. For example, aggression is frequently regarded as a maladaptive coping strategy; however, in certain situations, being aggressive can prove rather useful. For

instance, indirectly aggressive girls are less likely to be lonely and more likely to be popular than passive girls (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992). In other words, as situations change, so too does the effectiveness or usefulness of various coping strategies.

Also influential in the prevalence of one type of strategy over another is personal style (e.g., many individuals prefer active coping strategies to avoidant coping strategies). At times in the coping literature, the terms "coping strategy" and "coping style" have been used interchangeably. However, within the current study, the term "coping strategy" will be used to refer to specific efforts that individuals take in order to diminish or terminate stress. The term "coping style" will be used to refer to a particular pattern of responding to different stressful situations.

The Structure of Coping

Despite decades of research, there are still theoretical and methodological issues in the study of coping that remain unsettled. One such area is the optimal conceptualization of the structure of coping. During the first phase of coping research, psychodynamic scholars suggested hierarchies of defense mechanisms (e.g., Vaillant's four-tiered hierarchy), but empirical support of such hierarchies does not exist. Later, Folkman and Lazarus (1980) suggested that the structure of coping be divided into two types according to its function: problem-focused or emotion-focused. According to Lazarus (1993), the aim of problem-focused coping was to effect change in the problematic relationship between the person and the environment by acting on either the environment or oneself. The aim of emotion-focused coping strategies was to either change the degree to which the individual attends to the problematic situation (i.e., vigilance or avoidance) or change the relational meaning of what has occurred. Distancing or denial are examples of coping strategies that change the relational meaning of what has occurred, without altering the actual conditions of the relationship.

Unfortunately, much like the hierarchies of defense mechanisms suggested by psychodynamic scholars, Folkman and Lazarus's (1980) conceptualization of the structure of coping has not been supported by factor-analytic studies of coping. Rather, most factor-analytic studies of coping have yielded various three-factor solutions which differ somewhat depending on the measure and the researchers, but seem to be conceptually similar. The various names assigned to the factors have included the following: "Problem Solving," "Seeking Support," and "Avoidance" (Amirkhan, 1990); "Cognitive Self-Control," "Solace Seeking," and "Ineffective Escapism" (Rohde, Lewinsohn, Tilson, & Seeley, 1990); or "Task-Oriented," "Emotion-Oriented," and "Avoidance-Oriented" (Endler & Parker, 1990).

Finally, although the optimal structure of coping has yet to be resolved, Suls et al. (1996) urged coping researchers to begin using empirically derived coping measures that also make sense in theory. More specifically, Suls et al. argued that coping researchers should be using measures that yield broad dimensions of coping and fit a three-factor structure. Two examples cited in their research were the Multidimensional Coping Inventory (MCI; Endler & Parker, 1990) and the Coping Strategy Indicator (CSI; Amirkhan, 1990).

Five Factor Model of Personality

Finally, partially fueling psychology's transition into the third phase of coping research was the development of the Five Factor Model of Personality (FFM), or the "Big Five." This comprehensive framework of the human trait structure offered researchers a more thorough representation of the associations between personality and coping. Use of a comprehensive framework such as the FFM distinguishes research of the third phase from research of the second phase, which primarily assessed the associations between coping and specific dimensions of personality. Furthermore, Kato and Pedersen (2005) assert that the FFM has gained acceptance among coping theorists as a useful and informative framework for research on the association between coping strategies and personality dimensions.

Use of the FFM as a comprehensive depiction of the human trait structure became commonplace in the 1980s (Roccas, Sagiv, Schwartz, & Knafo, 2002). It is interesting, then, that the history of the FFM can be traced back to the 1930s. Louis Thurstone (1934) factor analyzed 60 adjectives, used by subjects to rate well known acquaintances, and discovered that the entire list could be accounted for by five independent common factors. Unfortunately, Thurstone failed to follow up on what could have been the launching of the FFM in the 1930s (Goldberg, 1993).

It was around the same time, that Allport and Odbert (1936) began developing taxonomies of trait adjectives. Allport and Odbert first selected all of the personality attributes found in an unabridged dictionary, then created an alphabetized list of these attributes, and finally divided them into four broad categories. Cattell (1943) improved on Allport and Odbert's work by analyzing possible hierarchical relationships among the trait adjectives and omitting words with overlapping meanings. Cattell eventually succeeded in reducing the original 4500 terms to 171 synonym groups, organized these into bipolar rating scales, measured their intercorrelations, and extracted 12 personality factors from the correlations (Digman, 1996).

Donald Fiske (1949) followed this up by factor analyzing 22 of Cattell's rating scales and eventually uncovered five factors: "Social Adaptability," "Conformity," "Emotional Stability," "Inquiring Intellect," and "Confident Self-Expression." The first clear appearance of the Big Five, however, was found in Tupes and Christal's (1961) reanalyses of Cattell's (1947, 1948) and Fiske's correlations. Tupes and Christal's analyses yielded five factors that were stable across replications. Unfortunately, few personality researchers saw the results because they were published as Air Force Technical Reports. Consequently, the credit for the firm establishment of the Big Five is given to Norman (1963).

The five factors that are consistently found to underlie the intercorrelations of trait descriptive terms have been given the following names: Extraversion (sometimes called Surgency or Positive Affectivity), Agreeableness (sometimes called Tender-mindedness), Conscientiousness, Neuroticism (sometimes reversed and called Emotional Stability), and

Openness to Experience (sometimes called Intellect/Culture or Openness/Creativity). Individuals who score highly on Extraversion tend to be very talkative, energetic, and assertive. Agreeableness is characterized by traits such as sympathetic, kind, and affectionate. Individuals high on Conscientiousness are often exceptionally organized, thorough, and purposeful, whereas individuals high on Neuroticism are apt to be tense, moody, and anxious. Finally, Openness encompasses traits such as being imaginative, accepting, and insightful (John & Srivastava, 1999).

Personality and Coping

The study of individual differences and the study of coping have been practically inseparable throughout much of psychology's history (Suls et al., 1996). Looking back at the three phases of coping research, it is clear that coping was first viewed as synonymous with personality, then viewed as completely distinct from personality, and finally viewed as overlapping with personality.

Carver et al. (1989) wrote that there were two ways to explain how personality affects coping. The first way assumes that individuals possess a stable set of coping styles or dispositions that are used across a broad range of stressful situations, regardless of the circumstances. The second way assumes that an individual's personality predisposes him or her to cope with stress in certain ways.

It has been suggested, however, that Carver et al.'s (1989) framework for how personality affects the coping process is somewhat limited. For example, Bolger and Zuckerman (1995) have theorized that personality affects the likelihood that an individual will encounter a stressful situation, as well as how that individual will respond to the situation. This model, which has been termed a differential exposure-reactivity model, has been supported by several other researchers, such as Smith and his colleagues (Smith & Anderson, 1986; Smith & Rhodewalt, 1986). Smith and his colleagues have suggested that the differential exposure-reactivity model best explains why individuals with a Type A personality have higher incidences of coronary disease.

Empirical evidence supporting the usefulness of such a model also exists. For example, Bolger and Schilling (1991) found that the differential exposure-reactivity model best represents the effects of Neuroticism on level of distress. In addition, Bolger and Schilling reported that reactivity was twice as important as exposure in the prediction of health and psychological outcomes.

During the third and most recent phase of coping research, several significant associations between the Big Five personality traits and coping have been reported (see Table 1 for an overview). Although the majority of this research has employed coping measures with greater than three factors, some studies have been performed with coping measures yielding a three-factor structure.

For example, McWilliams, Cox, and Enns (2003) found that Neuroticism was positively correlated with Emotion-Oriented coping and negatively correlated with Task-Oriented coping. Extraversion, however, was found to be negatively correlated with Emotion-Oriented coping and positively correlated with both Task-Oriented and Avoidance coping. Openness, Agreeableness, and Conscientiousness were similarly related to nonreligious coping; however, Openness was unrelated to Emotion-Oriented coping.

Other studies, including those by Costa, Somerfield, and McCrae (1996); David and Suls (1999); McCrae and Costa (1986); and Watson and Hubbard (1996), have found similar relationships. Costa et al. (1996) reported that Neuroticism was positively correlated with various emotion-focused coping strategies: self-blaming, wishful thinking, and withdrawing. As compared with Neuroticism, Extraversion's associations with coping are considerably more diverse. Extraversion has been found to be positively correlated with problem-focused coping strategies (McCrae & Costa, 1986), as well as emotion-focused coping strategies: support seeking (David & Suls, 1999), positive thinking (McCrae & Costa, 1986; Costa et al., 1996) and restraint (Costa et al., 1996). Although Neuroticism and Extraversion both demonstrate statistically significant relationships with emotion-focused coping, the specific strategies they are correlated

Table 1

Previously Found Correlations between Coping and Personality

	Neuroticism	Extraversion	Agreeableness	Conscientiousness	Openness
Religious Coping Styles					
1. Collaborative	-	+	+	+	+
2. Self-Directing		-	-		-
3. Deferring		+	+	+	+
Nonreligious Coping Styles					
4. Emotion-oriented	+	-	-	-	
5. Task-oriented	-	+	+	+	+
6. Avoidance		+	+	+	+

with are different. Regarding the role of Conscientiousness in coping, Watson and Hubbard (1996) found that Conscientiousness was strongly correlated with the use of problem-focused coping strategies such as planning, problem solving, and positive reappraisal.

Finally, in a study using a measure of coping modeled after Endler and Parker's Multidimensional Coping Inventory (MCI; 1990); Matthews, Emo, Funke, Zeidner, Roberts, Costa et al. (2006) found that Neuroticism was positively correlated with Emotion-Oriented coping strategies; whereas Conscientiousness was positively correlated with Task-Oriented coping strategies. In summary, many strong relationships between the Big Five personality traits and coping have been found; however, few studies have used measures that yield a three-factor structure of coping.

CHAPTER II

PERSONALITY, COPING, AND MENTAL HEALTH

One area in which personality and coping have been shown to overlap is in the prediction of mental health. To date, both constructs have demonstrated clear associations with a wide range of positive and negative mental health variables (see Table 2 for an overview).

Personality and its Associations with Mental Health

According to Bienvenu, Samuels, Costa, Reti, Eaton, and Nestadt (2004), anxiety and depressive disorders are related to the Five-Factor Model of Personality. Their results suggest that a wide range of anxiety disorders (i.e., simple phobia, social phobia, agoraphobia, and panic disorder) and depressive disorders (i.e., major depressive disorder and dysthymia) are positively correlated with Neuroticism. Social phobia, agoraphobia, and dysthymia, however, are negatively correlated with Extraversion. Lastly, Bienvenu et al. found that obsessive-compulsive disorder was positively correlated with Openness to Experience. Evidence that stress in performance settings is positively correlated with Neuroticism has also been reported (Thayer, 1989).

Relationships between positive outcomes (i.e., hope, quality of life, life satisfaction, and subjective well-being) and personality traits have also been explored. In fact, Magnus and Diener (1991) have found that personality was a stronger predictor of life satisfaction than were life events. Schimmack, Oishi, Furr, and Funder (2004) reported that Neuroticism and Extraversion are the Big Five traits most strongly associated with life satisfaction. Specifically, individuals reporting a relatively pleasant and happy life tended to score low on Neuroticism and high on Extraversion. These results are supported by the findings of several other researchers (for reviews see McCrae, 1992; McCrae & Costa, 1987).

Arnau, Rosen, and Green (2003) reported that Extraversion, Agreeableness, Conscientiousness, and Openness to Experience were all positively correlated with hope, whereas Neuroticism was negatively correlated with hope. Masthoff, Trompenaars, Van Heck, Hodiamont, and De Vries (2007) found that quality of life was negatively correlated with

Table 2

Previously Found Correlations between Coping, Personality, and Mental Health

	Life Satisfaction	Quality of Life	Hopefulness	Depression	Anxiety	Stress
Religious Coping Styles						
1. Collaborative				-	-	
2. Self-Directing				-		
3. Deferring				+	-	
Nonreligious Coping Styles						
4. Emotion-oriented				+	+	
5. Task-oriented				-	-	
6. Avoidance						
Big Five Traits						
7. Neuroticism	-	-	-	+	+	+
8. Extraversion	+	+	+	-	-	
9. Agreeableness	+		+			
10. Conscientiousness	+	+	+			
11. Openness			+			

Neuroticism, but positively correlated with Extraversion and Conscientiousness. Finally, Steel and Ones (2002) reported that Extraversion and Neuroticism were significantly correlated with subjective well-being. More specifically, Extraversion demonstrated a positive association, and Neuroticism demonstrated a negative association with subjective well-being.

Coping and its Associations with Mental Health

Not surprisingly, the relationship between an individual's physical and psychological well-being, as influenced by the specific coping strategy one chooses, is one of the most well researched areas of the coping literature (Endler, 1988; Fleischman, 1984; Parker & Endler, 1992; Suls & Fletcher, 1985). Today there is considerable evidence to suggest that the specific strategy an individual chooses to aid him/her in coping with a stressor can influence his/her physical and psychological well-being. For example, it has been reported that an individual's general life satisfaction, long-term adjustment, and overall success in problem-solving are all affected by the type of coping strategy an individual uses (Lazarus & Folkman, 1984; Tyler, 1978).

Most studies of basic nonreligious coping strategies (i.e., Emotion-Oriented, Task-Oriented, and Avoidance coping styles) indicate that Emotion-Oriented coping demonstrates the strongest associations with mental health. For example, Endler and Parker (1990) surveyed a large cross-section of undergraduates and found that the correlation between Emotion-Oriented coping and depression was .43 for men and .55 for women, while the correlation between Emotion-Oriented coping and state anxiety was .56 for men and .53 for women. There is also some evidence to suggest that Task-Oriented coping is negatively correlated with depression (Mitchell & Hodson, 1983) and anxiety (Sarason & Sarason, 1981).

In their development of the Coping Inventory for Stressful Situations, Endler and Parker (1994) found that each the coping factors demonstrated unique associations with the three higher order factor scales on the Basic Personality Inventory (Jackson, 1989): Psychiatric Symptomatology (Hypochondriasis, Persecutory Ideas, Anxiety, Thinking Disorder, and

Deviation); Depression (Depression, Social Introversion, and Self-Deprecation); and Social Symptomatology (Interpersonal Problems, Alienation, and Impulse Expression). More specifically, Emotion-Oriented coping was positively correlated with each of the three aforementioned psychopathology dimensions, whereas Task-Oriented coping was negatively correlated with the three dimensions. Avoidance coping, however, demonstrated just one significant association: a positive correlation with Social Symptomatology.

CHAPTER III

RELIGION AND COPING

Although the coping process is complex and definitions often vary, there is a universal consensus that the process involves several interrelated activities. An individual initiates the coping process by defining the problem and then forms plausible solutions to that problem. Following that, the individual must choose a solution, execute the solution, and finally re-define the problem and its meaning upon resolution (Lazarus & Folkman, 1984; Tyler, 1978). Not surprisingly, several researchers believe that religion is very influential in this process for many individuals. For example, Spilka, Shaver, and Kirkpatrick (1985) suggest that religion offers a foundation for defining and understanding the events of our lives.

In a poll of 50,000 respondents from 60 countries, the Gallup International Millennium Survey reported that 87% of respondents consider themselves religious (Egbert, Mickley, & Coeling, 2004). Whether believer or disbeliever, it is impossible to deny the impact that religion has had on human existence. Furthermore, it is exceedingly rare to find someone with a neutral opinion regarding religion (Pargament, 2002). Disagreements regarding the merits of religion, however, are commonplace and, presumably, the reason religion invites such passion is its attempt to answer many of life's greatest mysteries: the origin of life, the existence of a higher power, and life after death.

Although religion, much like coping, has long been a subject of psychological interest, enthusiasm for religious and spiritual constructs has been renewed within the past 30 years. Behaviorism and psychoanalysis, two theoretical orientations which pervaded psychology's landscape throughout much of the twentieth century, were ill-equipped for religiosity research. During the behaviorism movement, researchers avoided the empirical study of beliefs or mental experiences of any sort and during the psychoanalytic movement, many psychoanalysts saw religion as nothing more than a collective neurosis and childish expression of dependence

(Proudfoot & Shaver, 1976). However, at present, researchers are embracing religiosity/spirituality's clear association with mental and physical health (highlighted below). As Pargament (1997) explains, coping theory has become one of the most popular vehicles for this pursuit.

Research suggests that many individuals use their religious faith as a means to cope with adverse circumstances (Pargament, Koenig, & Perez, 2000). In fact, among certain demographic groups, such as the elderly and minority populations, religious coping strategies are the most commonly cited method of coping (Conway, 1985-1986). Larson and Larson (2003) reviewed the specific religious coping strategies that people use and found that, in order of preference, the most commonly enlisted religious coping strategies include prayer, attending religious services, worshiping God, meditation, reading scriptures, and conferring with spiritual leaders.

In many ways, religious coping functions in a manner similar to that of nonreligious coping. One such way involves religious coping strategies functioning to help buffer the symptoms of mental illness and stress. For example, Koenig, Larson, Hays, McCullough, George, Branch et al. (1998) found that those who relied most heavily on their faith to cope were less likely to be depressed. Later, Tepper, Rogers, Coleman, and Maloney (2001) found that the total number of years of religious coping was negatively related to the degree of symptomatology in six areas: obsessive-compulsiveness, interpersonal sensitivity, phobic anxiety, paranoid ideation, psychoticism, and total symptomatology. For a more comprehensive review of the relationships between mental health and religious coping, see Larson and Larson (2003).

Another way in which religious coping functions in a manner similar to that of nonreligious coping is that religious coping strategies can be adaptive or maladaptive, depending on the degree of control that an individual possesses in a stressful situation (Hathaway & Pargament, 1990).

Finally, despite years of research, scholars still do not agree on the optimal conceptualization of the structure of religious coping. This too is consistent with nonreligious coping and has led to the formation of several different religious coping measures. One commonly used measure of religious coping is the Religious Problem-Solving Scale (RPSS; Pargament, Kennell, Hathaway, Gravengoed, Newman, & Jones, 1988).

Pargament et al. (1988) proposed three broad styles of religious coping: Deferring, Collaborative, and Self-Directing. These styles differ on two dimensions: the agent responsible for the problem-solving process, and the degree of involvement in the problem-solving process. A Deferring style is said to be one in which the individual takes no responsibility for problem solving. Rather than actively generate and test possible solutions to a problem themselves, individuals employing a Deferring style prefer to wait passively for solutions generated by God. A Self-Directing style, however, places full responsibility for problem-solving on the individual. Pargament et al. added that, although a God is not actively involved in the Self-Directing problem-solving process, this style is not nonreligious. Instead, God's role within this style is to provide individuals with the tools and resources necessary to solve their own problems. Finally, a Collaborative style places the individual in partnership with God. Accordingly, neither party is a considered a passive participant in the problem-solving process when an individual uses a Collaborative coping style.

Since the advent of the RPSS in 1988, Pargament et al.'s three types of religious coping have been the subject of considerable investigation. Past research indicates that each religious coping approach demonstrates significant associations with mental health. More specifically, the Collaborative religious coping approach has been found to correlate positively with a number of desirable outcomes, including increased self-esteem (Pargament et al., 1988) and lower levels of anxiety (Schaefer & Gorsuch, 1991). However, past research exploring the mental health implications of the Deferring and Self-Directing approaches has yielded mixed results. Schaefer

and Gorsuch found that the Deferring approach was associated with lower scores on anxiety and Pargament et al. found that the same approach correlated negatively with self-esteem. Wong-McDonald and Gorsuch (2000) found that the Deferring approach was associated with higher levels of spiritual well-being. Lastly, concerning the Self-Directing religious coping approach, Pargament et al. found that individuals who cope in this manner tend to have higher self-esteem.

One question researchers continue to explore is whether religious coping styles and strategies can effectively be reduced to nonreligious forms of coping. Although several studies, including those of Pargament, Ensing, Falgout, Olsen, Reilly, Van Haitsma et al. (1990) and Burker, Evon, Sedway, and Egan (2005), suggest that religious coping contributes uniquely to the prediction of mental health, Zwingmann, Wirtz, Müller, Körber, and Murken (2006) found that the relationships between religious coping and psychosocial outcomes were mediated entirely by nonreligious coping.

Religious Coping and Personality

Another area of religious coping research in need of further exploration is the exploration of relationships between religious coping and personality traits. In a study of 4,250 male and female United States veterans, Huhra (2008) reported strong relationships between the three religious coping approaches and Big Five traits. More specifically, Huhra found that the Deferring and Collaborative approaches were positively associated with Extraversion, Agreeableness, Openness to Experience, and Conscientiousness. The Self-Directing approach, however, was negatively associated with Extraversion, Agreeableness, and Openness to Experience. Finally, the Collaborative approach was unique in its negative association with Neuroticism.

However, in a study of Slovakian adolescents, Stríznec and Ruisel (1998) found that the Deferring religious approach was negatively correlated with Openness to Experience for males and that the Collaborative religious approach was positively correlated with Openness to

Experience for females. Significant relationships between religious coping and other Big Five traits were not found.

CHAPTER IV

GOALS AND HYPOTHESES OF THE PRESENT STUDY

Goals

The current study was intended to further delineate the relationships between two distinct sets of coping strategies (religious and nonreligious), various indices of mental health (levels of depression, anxiety, stress, hopefulness, quality of life, and subjective well-being), and the Big Five personality traits (Neuroticism, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience). To this end, the study's first goal was to determine whether religious coping strategies accounted for unique variance in mental health, after controlling for nonreligious coping strategies. It is not yet known if religious coping can be reduced to nonreligious forms of coping and this goal was meant to shed additional light on the matter. The study's second goal was to determine the opposite: Whether nonreligious coping strategies account for unique variance in mental health, after controlling for religious coping strategies.

The study's third, and final, goal was to advance our understanding of the relationships between personality, mental health, and coping by determining whether coping strategies mediated the relationships between personality and mental health. The mediating role of coping has been well documented in a number of different studies, as well as across a wide range of relationships (Bolger, 1990; Maxim, 2000; Pruchno & Resch, 1989; Valentiner, Holahan, & Moos, 1994).

In studies of the relationships between personality and mental health, Bolger (1990) and Maxim (2000) reported that coping partially mediated the association between Neuroticism and anxiety. More specifically, Bolger demonstrated that wishful thinking, self-blame, and problem-focused coping all partially mediated the positive relationship between Neuroticism and anxiety change. However, Maxim's results showed that escape-avoidance coping and seeking social support both partially mediated the association between Neuroticism and Anxiety.

Assessment of Positive Outcomes

The bulk of the coping literature to date has reported on the associations between coping strategies and negative outcomes, while positive outcomes have received comparatively little attention. In this respect, the study of coping is not so different from any other area of psychology. According to Seligman (2003), the field of psychology focused almost entirely on the remediation of distress, to the detriment of positive psychology and its associated goals, after World War II ended in 1945. Seligman explained that, before World War II, psychology had three basic goals: to treat mental illness, to make people's lives happier and more fulfilling, and to cultivate aptitude and talent. Psychology began ignoring goals two and three after World War II ended for two reasons. First, when the Veterans Administration Act was passed in 1946, psychologists realized that they could make a living treating people with neuroses. Second, when the National Institute of Mental Health was launched in 1947, academics quickly learned that grants were considerably easier to land if their proposed studies could be described in terms of treating psychopathology.

For the most part, the aims and applications of positive psychology were unfamiliar to psychologists until Seligman was elected president of the American Psychological Association in 1997 and made it his mission to help build positive psychology. Today, the goal of positive psychology is to help people thrive rather than just exist (Keyes & Haidt, 2003). Seligman (2003) also wrote that positive psychology has three basic pillars: The study of positive emotion, the study of positive strengths and virtues, and the study of positive institutions. The assessment of positive emotions is important because it furthers our understanding of how to treat and prevent distress, as well as psychopathology. Studying positive strengths and virtues is equally important because these attributes build resilience and buffer against misfortune and psychopathology. Finally, Seligman suggests that the study of positive institutions, such as democracy and strong families, is important because they support positive virtues and emotions.

However, it is not enough to merely study such strengths as optimism or courage; positive outcomes like life satisfaction, quality of life, and subjective well-being must also be studied. After all, happiness is more than just the nonexistence of depression (Myers & Diener, 1995) and health is more than just the nonexistence of sickness or disease (Seeman, 1989).

In summary, Seligman (1998a, 1998b, 2002, 2003) and others (Kast, 1991; Ryff & Singer, 1998) argue that although psychology must give due attention to fixing that which is broke, psychology must also focus on identifying and cultivating that which is good. Exploring the associations between coping strategies and negative outcomes will undoubtedly yield valuable information about the remediation of distress; however, without an exploration of the associations between coping strategies and positive outcomes, equally important information about the properties of flourishing will go untapped. In theory, such knowledge could allow people to move past the mere absence of psychopathology toward "weller than well" (Menninger, 1963) or self-actualization (Maslow, 1970, 1971). For these reasons, the current study sought to address these previous ignored areas by including several positive mental health outcomes (i.e., levels of hopefulness, quality of life, and life satisfaction).

Hypotheses

Zwingmann et al. (2006) found that the relationship between religious coping and psychosocial outcomes was mediated entirely by nonreligious coping. However, the nonreligious coping style responsible for fully mediating this relationship was Depressive Coping (Muthny, 1989). This particular type of coping is not often referenced in the coping literature and is also unaccounted for within the three-factor structure typically used to measure coping. Furthermore, the Zwingmann et al. study was set in Germany and the authors acknowledged that there were some discrepancies in their results as compared with previous Anglo-American research, which could be attributable to the specific religious-cultural background in Germany.

Consequently, within the current study, it was hypothesized that religious coping would explain unique variance in mental health, above and beyond nonreligious coping. This hypothesis was supported by the findings of Pargament et al. (1990) and Burker et al. (2005) who concluded that religious and nonreligious coping strategies both predict unique variance in psychological functioning.

It was also hypothesized that the relationships between Neuroticism and mental health, as well as Extraversion and mental health, would be mediated by various coping strategies. More specifically, in accordance with the findings of Bolger (1990) and Maxim (2000), it was hypothesized that the relationship between Neuroticism and negative mental health outcomes would be mediated by both Task-Oriented and Emotion-Oriented coping.

Although relationships with positive mental health variables do not always mirror relationships with negative mental health variables, many times they do. Therefore, it stands to reason that if past research (e.g., Bolger, 1990; Maxim, 2000) suggests that the relationship between Neuroticism and anxiety is mediated by Task-Oriented and Emotion-Oriented coping strategies, then the relationship between Neuroticism and positive mental health outcomes would likely be as well. This hypothesis was supported by strong correlations between Neuroticism and positive mental health outcomes such as life satisfaction (McCrae, 1992), hopefulness (Arnau et al., 2003), and quality of life (Masthoff et al., 2007), as well as strong correlations between Neuroticism and both Task-Oriented and Emotion-Oriented coping (McWilliams et al., 2003).

Regarding the relationships between Extraversion and mental health outcomes, it was hypothesized that these relationships would also be mediated by the Task-Oriented and Emotion-Oriented coping strategies. Once again, this hypothesis was supported by strong correlations between Extraversion and both positive (e.g., Arnau et al., 2003; Masthoff et al., 2007, McCrae, 1992) and negative (Bienvenu et al., 2004) mental health outcomes, as well as strong correlations

between Extraversion and both Task-Oriented and Emotion-Oriented coping (McWilliams et al., 2003).

Finally, because Collaborative and Deferring religious coping have also demonstrated strong relationships with mental health (Pargament et al., 1988; Schaefer & Gorsuch, 1991) and Big Five traits (Huhra, 2008), it was hypothesized that these religious coping approaches would mediate the relationships between Extraversion and mental health outcomes, as well as between Neuroticism and mental health outcomes.

Hypotheses were only made for mediational analyses involving Neuroticism or Extraversion, as associations with these personality traits have been more rigorously studied any of the other Big Five traits. Despite this, several mediational models were run as exploratory analyses in order to determine whether the relationships between Agreeableness and mental health, as well as Conscientiousness and mental health, were mediated by various coping strategies. Openness was excluded from these analyses because it correlated with just two of the mental health variables.

CHAPTER V

METHODS

Participants

Undergraduates (N = 300) enrolled in psychology courses at The University of Southern Mississippi (USM) participated in exchange for course credit. The mean age among participants was 20.17 years (*SD* = 3.21) and the gender makeup of the sample was 28.7% male versus 68.3% female. Three percent of the sample did not report their gender. The sample was ethnically diverse with 50.0% of participants identifying themselves as Caucasian, 41.0% identifying themselves as African-American, 1.7% identifying themselves as Asian/Pacific Islander, 1.0% identifying themselves as Hispanic, 0.7% identifying themselves as Native American, 2.3% identifying themselves as Multiracial, and another 2.3% identifying themselves as a separate, unidentified ethnicity. One percent of the sample did not identify their ethnicity. A range of religious affiliations was also evident in the sample. However, most participants identified their religious affiliation as Protestant Christian (54.0%), Catholic (18.7%), or "Other" (15.7%). Seven percent of participants did not answer the question.

Measures

College Chronic Life Stress Survey (CCLSS; Towbes & Cohen, 1996)

The CCLSS (Towbes & Cohen, 1996) is a 54-item measure designed to identify the number of, and severity of distress resulting from, ongoing unpleasant life events. The items are tailored to be uniquely applicable to stressors encountered by college students. The instructions ask respondents to check those items that make them "feel stressed, upset or worried at least two or three times a week for the past one month" (Towbes & Cohen, 1996, p. 204). Respondents rate each of the checked items using a three-point Likert scale, from 1 (Bothered me just a little,) to 3 (Bothered me very much). Examples of items include, "Roommate conflict," "Long-distance relationship," and "Behind in schoolwork."

CCLSS unit scores can be generated by adding the number of checked items, while impact scores can be generated by adding the subjective impact ratings for each checked item. In developing the measure, Towbes and Cohen (1996) assessed the CCLSS's test-retest reliability and concurrent validity. The two-week test-retest reliability coefficient scores were strong for both the CCLSS unit scores (r = .88) and impact scores (r = .90). The CCLSS's concurrent validity was assessed by having respondents' closest friends corroborate their CCLSS responses. Towbes and Cohen used kappa statistics to compute the corrected intra-agreement ratings for each CCLSS item of the respondent-friend pair. These statistics ranged from .02 to .80 and were statistically significant for 37 of the 54 CCLSS items.

For the current study, the CCLSS was used only to identify a current, salient stressor that respondents would then bear in mind while completing the religious and nonreligious coping strategy questionnaires. Consequently, unit and impact scores did not need to be calculated, as no actual scores from the CCLSS were used in the present study.

Religious Problem-Solving Scale (RPSS; Pargament et al., 1988)

The RPSS (Pargament et al., 1988) is a 36-item self-report measure of three distinct approaches to religious problem solving: Deferring (12 items), Collaborative (12 items), and Self-Directing (12 items). A Deferring strategy is one in which the individual takes no responsibility for problem solving, leaving it up to God, whereas a Collaborative strategy places the individual in partnership with God. A Self-Directing strategy places full responsibility for problem solving on the individual. The items tap into different problem-solving strategies, and respondents use a Likert-type scale to indicate how often (never, occasionally, fairly often, very often, or always) they use these strategies for solving problems in their lives. The Collaborative approach is assessed by items such as, "Together, God and I put my plans in action;" whereas the Self-Directing approach is assessed by items such as, "When I have difficulty, I decide what it means by myself without help from God." Lastly, the Deferring approach is assessed by items such as, "I do not think about different solutions to my problems because God provides them for me." As

mentioned previously, participants in the current study responded to items on the RPSS in reference to how they had been coping with the most salient stressor identified on the CCLSS.

In a test of the factorial validity of the religious problem-solving dimensions, Pargament et al. (1988) found that the original conceptualization of the three distinct types was supported. Every item loaded greater than .40 on its appropriate factor and less than .30 on the other factors, with 31 of 36 items loading greater than .60 on its appropriate factor. Fox, Blanton, and Morris (1998) have also supported the original conceptualization of the three distinct types using factor analysis. However, evidence for construct validity has yet to be reported.

Scores from the three subscales have demonstrated high internal consistency (Pargament et al., 1988) and test-retest reliability of scores taken over a one week period ranged from .87 to .94 (Taitel, Kooistra, & Hathaway, 1987). Internal consistencies of scores for the three subscales within the present sample were excellent: .96 for Collaborative, .95 for Self-Directing, and .94 for Deferring.

Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1994)

The CISS (Endler & Parker, 1994) is composed of 48 items that tap into three fundamental coping strategies: Task-Oriented, Emotion-Oriented, and Avoidance-oriented coping. A Task-Oriented strategy includes behaviors meant to directly address stressful situations. Sample items from the Task-Oriented scale include, "Schedule my time better" and "Outline my priorities." An Emotion-Oriented strategy includes emotional responses, self-preoccupation, or fantasization intended to ameliorate the negative emotions associated with stressful situations. Sample items from the Emotion-Oriented scale include "Think about the good times I've had" and "Blame myself for being too emotional about the situation." Finally, Avoidance coping involves the Avoidance of stress by various means of distraction. Items on the Avoidance scale include "See a movie" and "Go to a party."

The CISS represents a psychometrically refined version of the MCI (Endler & Parker, 1990). Using a five-point Likert scale, from one (Not at All), to five (Very Much), participants

rate the extent to which they generally use different coping strategies when reacting to difficult, stressful, or upsetting situations. As mentioned previously, participants in the current study responded to items on the CISS in reference to how they had been coping with the most salient stressor identified on the CCLSS.

Scores from all scales have been found to have satisfactory reliability, with alpha reliability coefficients ranging from .76 to .90 for undergraduates and .77 to .92 for adults (Endler & Parker, 1994). Internal consistencies of scores for the three subscales within the present sample were excellent: .91 for Task-Oriented, .88 for Emotion-Oriented, and .86 for Avoidance.

Endler and Parker (1994) explored the associations between the CISS scales and Coping Strategies Inventory (CSI; Amirkhan, 1990) scales. Their results suggested that the CISS Task scale correlated moderately with the CSI Problem Solving scale, the CISS Emotion and Distraction scales correlated moderately with the CSI Avoidance scale, and the CISS Social Diversion scale correlated moderately with the CSI Seeking Social Support scale.

Big Five Inventory (BFI-44; John, Donahue, & Kentle, 1991)

The BFI-44 (John et al., 1991) measures the five basic factors that organize human personality traits: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Using a five-point Likert scale from one (Strongly Agree) to five (Strongly Disagree), participants rate themselves on 44 descriptive phrases, such as, "is talkative" or "is sometimes rude to others." The trait adjectives (e.g., "talkative") that form the core of each of the 44 BFI items have been shown in previous studies to be prototypical markers of the Big Five dimensions (John, 1989, 1990).

In a test of its convergent validity with other Five Factor Model instruments, John and Donahue (1998, as reported in Benet-Martínez & John, 1998), found that the BFI scales demonstrated strong correlations with Costa and McCrae's (1992) Revised NEO Personality Inventory scales (mean $r = .75$). In addition, internal consistency reliabilities of scores from the domain scales have been found to range from acceptable to excellent: .83 for Neuroticism, .80 for

Extraversion, .88 for Openness, .69 for Agreeableness, and .73 for Conscientiousness (Reynolds & Clark, 2001). Internal reliabilities of scores within the present sample were also found to range from acceptable to excellent: .86 for Neuroticism, .85 for Extraversion, .66 for Openness, .80 for Agreeableness, and .79 for Conscientiousness.

Depression Anxiety and Stress Scales (DASS; Lovibond & Lovibond, 1995b)

The DASS (Lovibond & Lovibond, 1995b) is a 42-item self-report measure of depression, anxiety, and stress symptoms. Respondents use a four-point Likert scale, from 0 (Did not apply to me at all), to 3 (Applied to me very much, or most of the time, over the last week), to rate the degree to which each symptom applied to them over the past week. The DASS yields three different scale scores, two for anxiety and one for depression composed of 14 items each.

One anxiety scale, labeled Anxiety, assesses the physiological, cognitive, and affective symptoms of panic; whereas the other anxiety scale, labeled Stress, taps into problems relaxing, nervous arousal, worrying, and being easily upset. The Depression scale is designed to measure dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest or involvement, anhedonia, and inactivity.

Internal reliability of scores for these scales is acceptable and ranged from .84 to .91 in the original normative sample of students (Lovibond & Lovibond, 1995a). Similar internal consistency estimates have also been found in a clinical population (Antony, Bieling, Cox, Enns, & Swinson, 1998). In addition, Antony et al. reported that the DASS yields high concurrent validity scores. Specifically, the Depression scale is strongly correlated ($r = .77$) with the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and the Anxiety scale is strongly correlated ($r = .84$) with the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988). Finally, several different factor analytic studies have tested the construct validity of the DASS and each has identified a three-factor solution (Antony et al., 1998; Brown, Chorpita, Korotitsch, & Barlow, 1997; Clara, Cox, & Enns, 2001). Internal consistencies of scores for the

three subscales within the present sample were excellent: .94 for depression, .86 for anxiety, and .92 for stress.

Herth Hope Scale (HHS; Herth, 1991)

The HHS (Herth, 1991) was developed to capture the specific and global dimensions of Dufault and Martocchio's (1985) original conceptualization of hope. The HHS combined some of Dufault and Martocchio's original dimensions and is theorized to tap into the following domains of hope: cognitive-temporal (a positive perception that a desired outcome is realistically possible), affective-behavioral (confidence and initiation of plans for the desired outcomes), and affiliative-contextual (interdependence and interconnectedness with others). Using a four-point Likert scale from one (Never applies to me) to four (Often applies to me), participants rate the extent to which they agree or disagree with 30 phrases, such as, "I am looking forward to the future" and "I see the positive in most situations."

In the initial development of the HHS, 180 cancer patients (Herth, 1989), 185 healthy adults (Herth, 1988, as cited in Herth, 1992), 40 healthy elderly (Herth, 1988, as cited in Herth, 1992), and 75 elderly widows and widowers (Herth, 1990) were sampled. The total scale alpha reliability coefficients from these studies varied from .74 to .94, with satisfactory 3-week test-retest reliability, ranging from .89 to .91. Herth's (1991) exploratory factor analysis yielded evidence for the scale's factorial validity, yielding three factors that corresponded to the three dimensions described earlier. The internal consistency of HHS scores within the present sample was .91.

World Health Organization Brief Quality of Life Assessment Instrument (WHOQOL-BREF; WHOQOL Group, 1998)

The WHOQOL-BREF (WHOQOL Group, 1998) assesses respondents' perceptions of their position in life, in the context of the culture in which they live, and in relation to their goals, expectations, standards, and concerns. The WHOQOL-BREF contains 26 items, two items from the Overall Quality of Life and General Health, and one item from each of the 24 facets, that are

included in the longer WHOQOL-100 (WHOQOL Group, 1996; WHOQOL Group, 1998). Examples from the 24 facets include: energy and fatigue, bodily image and appearance, mobility, and home environment. Intraclass correlation coefficients for the WHOQOL-BREF range from .87 to .94, and Guttman's reliability coefficients, obtained from fourteen testing centers, ranged from .80 to .90 (Saxena, Carlson, Billington, & Orley, 2001). Using a five-point Likert scale, participants are asked to select responses while thinking about their standards, hopes, pleasures and concerns in last two weeks. Examples include, "How would you rate your quality of life:" one (Very poor) to five (Very good), and "How much do you enjoy life:" one (Not at all) to five (An extreme amount).

The WHOQOL-BREF yields scores across four different domains of quality-of-life. These include Physical Health, Psychological, Social Relationships, and Environment. Total scores for each domain are computed by taking the mean of items in each domain and multiplying by a factor of four. These scores are then transformed to a 0-100 scale. Internal consistency of scores for each of the four domains ranged from .66 to .80, demonstrating good internal consistency (WHOQOL Group, 1998). Internal reliability scores within the current study were found to range from acceptable to excellent: .69 for Physical Health, .79 for Psychological, .69 for Social Relationships, and .70 for Environment.

Given that the primary interest of the current study was overall quality of life, the overall internal consistency of WHOQOL-BREF scores within the present sample was examined to determine if computing a total score would be appropriate. Cronbach's alpha for all WHOQOL-BREF items was .88. In addition, a principal components analysis of the WHOQOL-BREF subscale scores indicated that a one-factor solution fit the data well. The first factor yielded an eigenvalue of 2.49 and accounted for 62.2% of the variance in quality-of-life. Eigenvalues of the second and third factors were .65 and .49 respectively. Lastly, with pattern coefficients above .75, all four subscales strongly loaded on the first factor. Therefore, for the purposes of the current study, a total score was used to reflect overall quality of life.

Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985)

The SWLS (Diener et al., 1985) assesses an individual's cognitive and affective evaluations of his or her life. This scale contains five items, which respondents rate, using a seven-point Likert scale, from one (Strongly disagree), to seven (Strongly agree), the extent to which they agree or disagree with phrases, such as, "The conditions of my life are excellent" and "If I could live my life over, I would change almost nothing." Scores range from 5 (low satisfaction) to 35 (high satisfaction).

A series of validation studies conducted by Diener et al. (1985) and the factor analysis conducted by Pavot, Diener, Colvin, and Sandvik (1991) indicated that the SWLS appears to be tapping a single dimension. Pavot et al. (1991) reported that the first factor, with an eigenvalue of 3.26, accounted for 65% of the variance in items, whereas no other factors approached an eigenvalue of 1. Additionally, Diener et al. (1985) found that the two-month test-retest correlation coefficient was .82 and the coefficient alpha was .87. Strong inter-item correlations and alphas were also reported by Pavot et al. (1991). As evidence of its convergent validity, Pavot et al. (1991) reported that the SWLS was highly correlated with several other measures of life satisfaction, including the Philadelphia Geriatric Center Morale Scale (Lawton, 1975) and the Life Satisfaction Index-A (Neugarten, Havighurst, & Tobin, 1961). The internal consistency of SWLS scores within the present sample was .84.

Background Inventory

Participants were asked to complete a background inventory that solicited demographic information, such as age, gender, ethnicity, and religious affiliation.

Procedure

The study was approved by the USM Institutional Review Board and all participants provided written informed consent before participation. After providing informed consent, participants completed a packet of questionnaires that included measures of religious and nonreligious coping, personality, depression, anxiety, stress, hopefulness, quality-of-life, and life

satisfaction. Participants completed the questionnaires in groups no larger than 30 and although completion times varied, most participants completed the packet within 30-60 minutes. In exchange for volunteering to participate in the study, each participant was given course credit. Participants recorded their responses to the questionnaires on a separate scannable response form, which was provided for them.

Participants were asked to first complete the CCLSS in order to identify recent stressful and negative life events in the lives of respondents. Upon completion of the CCLSS, participants were asked to circle the one item that had been most bothersome to them during the previous 2-3 weeks. When completing the coping measures, participants were directed to respond in reference to how they were coping with the specific stressor that they had identified as most bothersome.

CHAPTER VI

RESULTS

Initial Analyses

Descriptive statistics

Descriptive statistics for the primary variables are listed in Table 3.

Table 3

Descriptive Statistics for All Measures

Measure	Mean	SD	Skewness	Kurtosis
College Chronic Life Stress Survey				
Unit score	26.55	14.54	.655	-.585
Impact score	55.50	25.33	.114	-.806
Religious Problem-Solving Scale				
Deferring	33.06	12.14	.068	-.550
Collaborative	39.87	12.53	-.306	-.683
Self-Directing	30.44	12.71	.578	-.322
Coping Inventory for Stressful Situations				
Task-Oriented	56.44	11.82	-.271	-.239
Emotion-Oriented	42.64	12.13	.259	-.460
Avoidance-oriented	50.55	11.73	-.178	-.007
Big Five Inventory				
Extraversion	27.46	6.37	-.435	-.222
Neuroticism	22.29	6.88	.096	-.629
Agreeableness	35.75	5.77	-.701	.551
Conscientiousness	32.60	5.68	-.396	.078
Openness	34.58	5.59	.049	-.444
Depression Anxiety and Stress Scales				
Depression	6.59	8.09	1.942	4.100
Anxiety	6.48	6.61	1.432	2.062
Stress	12.70	9.58	.730	-.131
Herth Hope Scale				
Hopefulness	103.82	11.08	-1.176	2.068
WHOQOL-BREF				
Quality of Life	101.86	12.23	-.511	.673
Satisfaction with Life Scale				
Life Satisfaction	19.64	6.44	-.720	.172

Means and standard deviations for all measures were comparable to those from other studies that utilized non-clinical populations. The data were also screened for normality of distribution. Skew scores higher than 3 and kurtosis scores larger than 5 are generally considered

problematic (Hoyle & Panter, 1995); however, skew scores as low as 1.9 have been found to reduce the magnitude of *r* between two variables (Dunlap, Burke, & Greer, 1995). All primary variables, except depression, had skew scores below 1.9 and kurtosis scores below 4. Depression's skew and kurtosis scores were 1.942 and 4.100 respectively. Consequently, it can be argued that scores on depression were not normally distributed.

Zero-Order Correlations

Simple correlations of the coping strategies with the mental health variables are presented in Table 4. Because scores on depression were not normally distributed, Spearman correlation coefficients were used to assess simple correlations with this variable. As is standard practice, test scores were ranked for the Spearman correlation analysis. Pearson *r* coefficients were used to assess simple correlations among all remaining variables.

The results indicated that all coping strategies were significantly correlated with at least two indices of mental health. Overall, religious coping strategies correlated with fewer mental health variables than nonreligious coping strategies. In addition, although religious coping strategies demonstrated significant correlations with all of the positive mental health variables, these same strategies (minus the Deferring strategy) demonstrated significant correlations with just one negative mental health variable: depression.

Simple correlations with the Big Five traits relating to the mental health variables were also calculated and are presented in Table 5. The results indicated that all Big Five traits, except Openness, exhibited significant correlations with the six mental health variables. Openness demonstrated significant associations with just two of the mental health variables: Hopefulness (r = .269) and Depression (r = -.128).

Lastly, simple correlations with the coping strategies relating to the Big Five traits were calculated and are presented in Table 6. The results suggested strong relationships between many of the coping strategies and Big Five personality domains. The results also suggested that certain religious and nonreligious coping strategies related similarly with the Big Five personality traits.

Table 4

Correlations between Coping Strategies and Mental Health

Variable	1	2	3	4	5	6	7	8	9	10	11	12
Religious Coping												
1. Collaborative	-											
2. Self-Directing	-.779**	-										
3. Deferring	.828**	-.621**	-									
Nonreligious Coping												
4. Emotion-Oriented	-.056	.109	.005	-								
5. Task-Oriented	.328**	-.217**	.191**	.057	-							
6. Avoidance	.292**	-.191**	.289**	.261**	.406**	-						
Mental Health												
7. Life Satisfaction	.217**	-.103	.152*	-.305**	.252**	.112	-					
8. Quality of Life	.201**	-.126*	.161**	-.345**	.222**	.146*	.688**	-				
9. Hopefulness	.412**	-.289**	.309**	-.338**	.459**	.219**	.621**	.679**	-			
10. Depression	-.159**	.142*	-.113	.595**	-.230**	-.060	-.550**	-.555**	-.608**	-		
11. Anxiety	-.089	.072	.002	.504**	-.016	.065	-.372**	-.375**	-.375**	.676**	-	
12. Stress	-.088	.028	-.054	.599**	-.081	.010	-.415**	-.425**	-.415**	.714**	.736**	-

Note. * = $p < .05$; ** = $p < .01$.

Table 5

Correlations between Big Five Personality Traits and Mental Health

Variable	1	2	3	4	5	6	7	8	9	10	11
Big Five Personality Traits											
1. Neuroticism	-										
2. Extraversion	-.286**	-									
3. Agreeableness	-.409**	.231**	-								
4. Conscientiousness	-.372**	.296**	.467**	-							
5. Openness	-.132*	.254**	.129*	.255**	-						
Mental Health Variables											
6. Life Satisfaction	-.406**	.338**	.280**	.315**	.113	-					
7. Quality of Life	-.421**	.319**	.250**	.346**	.104	.688**	-				
8. Hopefulness	-.486**	.433**	.475**	.500**	.269**	.621**	.679**	-			
9. Depression	.565**	-.253**	-.343**	-.357**	-.128*	-.550**	-.555**	-.608**	-		
10. Anxiety	.488**	-.150*	-.275**	-.246**	-.048	-.372**	-.375**	-.375**	.676**	-	
11. Stress	.664**	-.163**	-.346**	-.259**	-.082	-.415**	-.425**	-.415**	.714**	.736**	-

Note. * = $p < .05$; ** = $p < .01$.

Table 6

Correlations between Coping Strategies and Big Five Personality Traits

Variable	1	2	3	4	5	6	7	8	9	10	11
Coping Strategies											
1. Task-Oriented	-										
2. Emotion-Oriented	.057	-									
3. Avoidance	.406**	.261**	-								
4. Collaborative	.328**	-.056	.292**	-							
5. Self-Directing	-.217**	.109	-.191**	-.779**	-						
6. Deferring	.191**	.005	.289**	.828**	-.621**	-					
Big Five Personality Traits											
7. Neuroticism	-.185**	.596**	.003	-.131*	.108	-.127*	-				
8. Extraversion	.261**	-.128*	.196**	.261**	-.133*	.231**	-.286**	-			
9. Agreeableness	.272**	-.286**	.148*	.407**	-.366**	.298**	-.409**	.231**	-		
10. Conscientiousness	.387**	-.336**	-.006	.301**	-.203**	.180**	-.372**	.296**	.467**	-	
11. Openness	.301**	-.005	.191**	.169**	-.004	.106	-.132*	.254**	.129*	.255**	-

Note. * = $p < .05$; ** = $p < .01$.

For example, Task-Oriented coping and Collaborative religious coping were both negatively associated with Neuroticism (r = -.185 and -.131, respectively) and positively associated with Extraversion (r = .261 and .261, respectively), Agreeableness (r = .272 and -.407, respectively), Conscientiousness (r = .387 and .301, respectively), and Openness to Experience (r = .301 and .169, respectively). Emotion-Oriented coping and Self-Directing religious coping were also found to relate with the Big Five traits in a similar fashion. Specifically, Emotion-Oriented and Self-Directing strategies were negatively associated with Extraversion (r = -.128 and -.133, respectively), Agreeableness (r = -.286 and -.366, respectively), and Conscientiousness (r = -.336 and -.203, respectively); however, Emotion-Oriented coping was also positively associated with Neuroticism (r = -.185), whereas Self-Directing religious coping was not. Finally, although Avoidance coping and Deferring religious coping were both positively associated with Extraversion (r = .196 and .231, respectively) and Agreeableness (r = .148 and .298, respectively), their associations with the other personality traits were not alike. Avoidance coping was positively associated with Openness to Experience (r = .191), but unrelated to Neuroticism and Conscientiousness; whereas Deferring religious coping was negatively associated with Neuroticism (r = -.127) and positively associated with Conscientiousness (r = .180), but unrelated to Openness to Experience.

For a comparison of the simple correlations in the current study with the results of earlier studies, see Tables 7 and 8. Table 7 outlines the similarities and differences in the basic relationships between coping and personality; whereas Table 8 outlines the similarities and differences in the basic relationships between coping and mental health, as well as personality and mental health.

Table 7

Correlations between Coping and Personality in the Current Study

	Neuroticism	Extraversion	Agreeableness	Conscientiousness	Openness
Religious Coping Styles					
1. Collaborative	-[1]	+[1]	+[1]	+[1]	+[1]
2. Self-Directing		-[1]	-[1]	-	[2]
3. Deferring	-	+[1]	+[1]	+[1]	[2]
Nonreligious Coping Styles					
4. Emotion-oriented	+[1]	-[1]	-[1]	-[1]	
5. Task-oriented	-[1]	+[1]	+[1]	+[1]	+[1]
6. Avoidance		+[1]	+[1]	[2]	+[1]

1 = Replication of previous results. 2 = Failure to replicate previous results. 3 = Current finding is opposite of previous results.

Table 8

Correlations between Coping, Personality, and Mental Health found in the Current Study

	Life Satisfaction	Quality of Life	Hopefulness	Depression	Anxiety	Stress
Religious Coping Styles						
1. Collaborative	+	+	+	-[1]	[2]	
2. Self-Directing		-	-	-[3]		
3. Deferring	+	+	+	[2]	[2]	
Nonreligious Coping Styles						
4. Emotion-oriented	-	-	-	+[1]	+[1]	+
5. Task-oriented	+	+	+	-[1]	[2]	
6. Avoidance		+	+			
Big Five Traits						
7. Neuroticism	-[1]	-[1]	-[1]	+[1]	+[1]	+[1]
8. Extraversion	+[1]	+[1]	+[1]	-[1]	-[1]	-
9. Agreeableness	+[1]	+	+[1]	-	-	-
10. Conscientiousness	+[1]	+[1]	+[1]	-	-	-
11. Openness			+[1]	-		

1 = Replication of previous results. 2 = Failure to replicate previous results. 3 = Current finding is opposite of previous results.

Relationships between Coping Strategies and Mental Health

The first goal of the present study was to determine whether religious coping strategies accounted for unique variance in mental health, after controlling for nonreligious coping strategies. The second goal was to determine if the converse was true: whether nonreligious coping strategies accounted for unique variance in mental health, after controlling for religious coping strategies.

Hierarchical Multiple Regression Analyses

In order to determine the predictive utility of religious coping strategies, independent of nonreligious coping strategies, nonreligious coping strategy scores were entered in the first step and religious coping strategy scores were entered in the second step. Next, a separate analysis was conducted with the order of entry reversed (religious coping strategy scores being entered in the first step and nonreligious coping strategy scores being entered in the second step) in order to determine the predictive utility of nonreligious coping strategies, independent of religious coping strategies. Improvement in the regression model was determined based on R^2 change and the statistical significance of the R^2 change in step two. Results of these analyses are shown in Tables 9, 10, 11, 12, 13 and 14.

The results in Table 9 indicated that when the nonreligious coping strategies were entered in the first step, they accounted for 25.5% ($p < .01$) of the variance in anxiety, with religious coping strategies adding just 0.7% of unique variance in the second step. When the opposite was tested and religious coping strategies were entered in the first step, a similar pattern emerged: 2.2% of the variance in anxiety was accounted for by religious coping strategies and nonreligious coping strategies added 23.9% ($p < .01$) of unique variance in the second step. Together, the religious and nonreligious coping strategies predicted 26.1% ($p < .01$) of the variance in anxiety.

Table 9

Hierarchical Regression with Religious and Nonreligious Coping Strategies Predicting Anxiety

Variable	B	SE B	β	R^2	R^2 Δ
Step 1				.255**	
Task-Oriented	-.005	.037	-.009		
Emotion-Oriented	.293	.034	.516**		
Avoidance	-.036	.038	-.061		
Step 2				.261**	.007
Task-Oriented	.010	.039	.017		
Emotion-Oriented	.288	.035	.507**		
Avoidance	-.035	.039	-.060		
Collaborative	-.097	.074	-.179		
Self-Directing	-.025	.053	-.046		
Deferring	.075	.061	.131		
Step 1				.022	
Collaborative	-.132	.080	-.244		
Self-Directing	.014	.060	.025		
Deferring	.125	.067	.219		
Step 2				.261**	.239**
Collaborative	-.097	.074	-.179		
Self-Directing	-.025	.053	-.046		
Deferring	.075	.061	.131		
Task-Oriented	.010	.039	.017		
Emotion-Oriented	.288	.035	.507**		
Avoidance	-.035	.039	-.060		

Note. * = p < .05; ** = p <.01.

Similar to the results found in Table 9, Table 10 indicated that when the nonreligious coping strategies were entered in the first step, they accounted for 35.3% (p <.01) of the variance in depression, while the religious coping strategies added just 0.2% of unique variance in the second step. When the opposite was tested, 2.1% of the variance in depression was accounted for by religious coping strategies; and nonreligious coping strategies added 33.4% (p <.01) of unique variance in the second step. Together, the religious and nonreligious coping strategies predicted 35.5% (p <.01) of the variance in depression.

Table 10

Hierarchical Regression with Religious and Nonreligious Coping Strategies Predicting Depression

Variable	B	SE B	β	R^2	R^2 Δ
Step 1				.353**	
Task-Oriented	-.109	.038	-.164**		
Emotion-Oriented	.371	.036	.579**		
Avoidance	-.087	.040	-.131*		
Step 2				.355**	.002
Task-Oriented	-.110	.041	-.166**		
Emotion-Oriented	.375	.036	.585**		
Avoidance	-.090	.041	-.136*		
Collaborative	-.024	.078	-.039		
Self-Directing	-.042	.056	-.069		
Deferring	.001	.064	.001		
Step 1				.021	
Collaborative	-.154	.091	-.251		
Self-Directing	-.005	.068	-.008		
Deferring	.100	.076	.156		
Step 2				.355**	.334**
Collaborative	-.024	.078	-.039		
Self-Directing	-.042	.056	-.069		
Deferring	-.001	.064	.001		
Task-Oriented	-.110	.041	-.166**		
Emotion-Oriented	.375	.036	.585**		
Avoidance	-.090	.041	-.136*		

Note. * = p < .05; ** = p <.01.

In Table 11, nonreligious coping strategies accounted for 40.1% (p <.01) of the variance in stress when entered in the first step and religious coping strategies added just 1.0% of unique variance in the second step. When the opposite was tested, 1.2% of the variance in stress was accounted for by religious coping strategies; and nonreligious coping strategies added 40.0% (p <.01) of unique variance in the second step. Together, the religious and nonreligious coping strategies predicted 41.2% (p <.01) of the variance in stress.

Table 11

Hierarchical Regression with Religious and Nonreligious Coping Strategies Predicting Stress

Variable	B	SE B	β	R^2	R^2 Δ
Step 1				.401**	
Task-Oriented	-.065	.045	-.079		
Emotion-Oriented	.508	.042	.644**		
Avoidance	-.086	.047	-.106		
Step 2				.412**	.010
Task-Oriented	-.072	.048	-.088		
Emotion-Oriented	.518	.043	.657**		
Avoidance	-.081	.048	-.100		
Collaborative	-.013	.092	-.018		
Self-Directing	-.104	.066	-.139		
Deferring	-.089	.075	-.113		
Step 1				.012	
Collaborative	-.131	.112	-.174		
Self-Directing	-.042	.084	-.056		
Deferring	.027	.094	.034		
Step 2				.412**	.400**
Collaborative	-.013	.092	-.018		
Self-Directing	-.104	.066	-.139		
Deferring	-.089	.075	-.113		
Task-Oriented	-.072	.048	-.088		
Emotion-Oriented	.518	.043	.657**		
Avoidance	-.081	.048	-.100		

Note. * = p < .05; ** = p <.01.

In Tables 12, 13, and 14, a new pattern emerged with the variables entered in the second step finally contributing a significant percentage of variance. For example, the results in Table 12 indicated that when the nonreligious coping strategies were entered in the first step, they accounted for 38.3% (p <.01) of the variance in hopefulness, while religious coping strategies added 7.4% (p <.01) of unique variance in the second step. When the opposite was tested, 21.0% (p <.01) of the variance in hopefulness was accounted for by religious coping strategies and nonreligious coping strategies contributed 24.7% (p <.01) of unique variance in the second step. Together, the religious and nonreligious coping strategies predicted 45.7% (p <.01) of the variance in hopefulness.

Table 12

Hierarchical Regression with Religious and Nonreligious Coping Strategies Predicting Hopefulness

Variable	B	SE B	β	R^2	R^2 Δ
Step 1				.383**	
Task-Oriented	.380	.052	.413**		
Emotion-Oriented	-.357	.048	-.406**		
Avoidance	.183	.053	.199**		
Step 2				.457**	.074**
Task-Oriented	.329	.052	.358**		
Emotion-Oriented	-.335	.046	-.381**		
Avoidance	.110	.052	.120*		
Collaborative	.245	.099	.290*		
Self-Directing	.113	.071	.135		
Deferring	.098	.081	.112		
Step 1				.210**	
Collaborative	.513	.112	.608**		
Self-Directing	.107	.084	.127		
Deferring	-.059	.094	-.067		
Step 2				.457**	.247**
Collaborative	.245	.099	.290*		
Self-Directing	.113	.071	.135		
Deferring	.098	.081	.112		
Task-Oriented	.329	.052	.358**		
Emotion-Oriented	-.335	.046	-.381**		
Avoidance	.110	.052	.120*		

Note. * = p < .05; ** = p <.01.

In Table 13, nonreligious coping strategies accounted for 22.0% (p <.01) of the variance in life satisfaction when they were entered in the first step and religious coping strategies added 6.8% (p <.01) of unique variance in the second step. When the opposite was tested, 11.1% (p <.01) of the variance in life satisfaction was accounted for by religious coping strategies and nonreligious coping strategies contributed 17.7% (p <.01) of unique variance in the second step. Together, the religious and nonreligious coping strategies predicted 28.8% (p <.01) of the variance in life satisfaction.

Table 13

Hierarchical Regression with Religious and Nonreligious Coping Strategies Predicting Life Satisfaction

Variable	B	SE B	β	R^2	R^2 Δ
Step 1				.220**	
Task-Oriented	.130	.034	.240**		
Emotion-Oriented	-.207	.032	-.395**		
Avoidance	.064	.035	.118		
Step 2				.288**	.068**
Task-Oriented	.111	.035	.204**		
Emotion-Oriented	-.208	.031	-.397**		
Avoidance	.036	.035	.067		
Collaborative	.167	.067	.334*		
Self-Directing	.169	.048	.341**		
Deferring	.068	.055	.130		
Step 1				.111**	
Collaborative	.267	.071	.533**		
Self-Directing	.153	.053	.308**		
Deferring	-.004	.059	-.007		
Step 2				.288**	.177**
Collaborative	.167	.067	.334*		
Self-Directing	.169	.048	.341**		
Deferring	.068	.055	.130		
Task-Oriented	.111	.035	.204**		
Emotion-Oriented	-.208	.031	-.397**		
Avoidance	.036	.035	.067		

Note. * = p < .05; ** = p <.01.

In Table 14, nonreligious coping strategies accounted for 20.2% (p <.01) of the variance in quality of life when they were entered in the first step and religious coping strategies added just 2.7% of unique variance in the second step. When the opposite was tested, 6.7% (p <.01) of the variance in quality of life scores was accounted for by religious coping strategies alone and nonreligious coping strategies contributed 16.2% (p <.01) of unique variance in the second step. Together, the religious and nonreligious coping strategies predicted 22.9% (p <.01) of the variance in quality of life.

Table 14

Hierarchical Regression with Religious and Nonreligious Coping Strategies Predicting Quality of Life

Variable	B	SE B	β	R^2	R^2 Δ
Step 1				.202**	
Task-Oriented	.172	.065	.173**		
Emotion-Oriented	-.381	.061	-.395**		
Avoidance	.178	.067	.179**		
Step 2				.229**	.027
Task-Oriented	.149	.068	.150*		
Emotion-Oriented	-.376	.061	-.391**		
Avoidance	.136	.069	.136		
Collaborative	.125	.132	.133		
Self-Directing	.120	.094	.128		
Deferring	.125	.107	.129		
Step 1				.067**	
Collaborative	.295	.136	.314*		
Self-Directing	.093	.102	.100		
Deferring	.020	.113	.021		
Step 2				.229**	.162**
Collaborative	.125	.132	.133		
Self-Directing	.120	.094	.128		
Deferring	.125	.107	.129		
Task-Oriented	.149	.068	.150*		
Emotion-Oriented	-.376	.061	-.391**		
Avoidance	.136	.069	.136		

Note. * = $p < .05$; ** = $p < .01$.

Commonality Analysis

The aforementioned multiple regression analyses demonstrated that the nonreligious coping strategies contributed statistically significant increases in the prediction of all criterion variables (beyond that predicted by religious coping), whereas the religious coping strategies contributed statistically significant increases in the prediction of just hopefulness and life satisfaction. Therefore, regression commonality analyses were performed with these constructs in order to understand and quantify the relative contributions of the religious and nonreligious coping strategies.

Commonality analysis offers a means of parsing the variance accounted for in a regression analysis into the percentage of variance in the dependent variable associated with each independent variable uniquely, and the percentage of variance in the dependent variable that is common to both independent variables (Rowell, 1996). Before a commonality analysis can be performed, R^2 must be calculated for all possible combinations of predictors. The regressions being evaluated in the current study each had two independent variables; therefore, three combinations of predictors were possible (i.e., religious coping strategies alone, nonreligious coping strategies alone, and both coping strategies combined). Having two independent variables also means that three components can be derived: the unique contribution of variable 1 (U1), the unique contribution of variable 2 (U2), and the commonality of variables 1 and 2 (C12). According to Rowell, the commonality can be computed as:

$$C12 = R^2 - U1 - U2.$$

In the current study, a commonality analysis was conducted for each of the regressions previously presented. The variance components from the commonality analysis of coping strategies predicting mental health variables are presented in Table 15. As seen in Table 15, the vast majority of the variance in negative mental health variables (i.e., depression, anxiety, and stress) was uniquely accounted for by nonreligious coping strategies. Specifically, nonreligious coping strategies yielded uniqueness component percentages of 33.4% for depression, 24.3% for anxiety, and 40.0% for stress. The percentage of variance in negative mental health variables uniquely accounted for by religious coping strategies never rose above 1.1%, and the commonality component never predicted more than 1.9% of the variance in negative mental health variables.

However, a new pattern was observed in the prediction of positive mental health variables. Although the nonreligious coping strategies still accounted for most of the variance in these variables (24.7% of the variance in hopefulness, 16.2% of the variance in quality of life, and 17.7% of the variance in life satisfaction), noteworthy unique contributions were made by the

religious coping strategies. Specifically, religious coping strategies yielded uniqueness component percentages of 7.4% for hopefulness, 2.7% for quality of life, and 6.8% for life satisfaction. The percentages of variance common to both the religious and nonreligious coping strategies were 13.6% for hopefulness, 4.0% for quality of life, and 4.3% for life satisfaction.

Table 15

Commonality Analysis Summary of Coping Strategies Predicting Mental Health

Mental Health Variables	1 Nonreligious	2 Religious	%
Depression			
U1	.334		33.4%
U2		.002	0.2%
C12	.019	.019	1.9%
Anxiety			
U1	.243		24.3%
U2		.006	0.6%
C12	.016	.016	1.6%
Stress			
U1	.400		40.0%
U2		.011	1.1%
C12	.001	.001	0.1%
Hopefulness			
U1	.247		24.7%
U2		.074	7.4%
C12	.136	.136	13.6%
Quality of Life			
U1	.162		16.2%
U2		.027	2.7%
C12	.040	.040	4.0%
Life Satisfaction			
U1	.177		17.7%
U2		.068	6.8%
C12	.043	.043	4.3%

Structural Equation Modeling

Model Specification

Structural equation modeling (SEM) with latent variables was used to explore whether coping mediated the relationships between personality and mental health. In this study, the

models were tested using the AMOS 7.0 (Arbuckle, 2006) software with the maximum likelihood method. Model identification was attained by fixing one pattern coefficient per latent factor to 1.00. Path coefficients were estimated for the direct effect of personality on mental health, as well as the indirect effect of personality on mental health, mediated via coping strategy.

All Big Five personality traits, except Openness, were separately run in the mediational model as independent variables. Openness was excluded from the analyses because it demonstrated significant associations with just two of the mental health variables; whereas the other four personality traits demonstrated significant associations with all six of the outcome variables. Coping strategies, functioning as mediating variables in the structural models, were also separately run in the mediational model. Consideration was given to using latent religious and nonreligious coping strategy variables as the mediators in the model, but this was not possible given that the simple correlations between nonreligious coping strategies were quite small. Finally, latent distress and flourishing variables; composed of negative and positive mental health variables as indicators, respectively, were used as the dependent variables in the mediational models.

Model Fit

The use of multiple fit statistics in assessing model fit has been supported by many researchers (e.g., Hoyle & Panter, 1995; Marsh, Balla, & McDonald, 1988; Thompson & Daniel, 1996). Although the chi-square statistic is commonly used as an index of model fit, its sensitivity to sample size is problematic. Consequently, chi-square statistics were reported in the present analyses; however, they were not used in evaluating model fit. Instead, the Root Mean Square Error of Approximation (RMSEA) and the Comparative Fit Index (CFI) were used in conjunction with one another. RMSEA values of <.06 are suggestive of a good fit (Hu & Bentler, 1999), while values between .06 and.08 are suggestive of a reasonable fit (Steiger, 1990), and values between .08 and .1 are suggestive of a marginal fit (MacCallum, Browne, & Sugawara, 1996). Models with RMSEA values >.1 are indicative of a poor fit and such models will not be

interpreted in the current study. Regarding CFI cutoff scores, values of at least .95 are considered indicative of good fit (Hu & Bentler, 1999). Models with fit statistics that met these cutoffs were determined to be good fitting models.

Structural Model for Testing Mediated Effects

Total scores from the Depression, Anxiety, and Stress subscales of the DASS were used as indicators of the latent distress variable; whereas total scores from the HHS, WHOQOL-BREF, and SWLS were used as indicators of the latent flourishing variable. Individual items from four of the BFI subscales (Extraversion, Neuroticism, Agreeableness, and Conscientiousness) were grouped into three distinct parcels and then used as indicators of their respective Big Five personality traits. For example, the Extraversion subscale items were divided randomly into three parcels (three, three, and two items each), and the item sums within these parcels served as indicators of the Extraversion latent variable. Parcels for the latent Neuroticism variable were also comprised of three, three, and two items each. However, parcels for the latent Agreeableness and Conscientiousness variables were comprised of three items each.

Similar to the Big Five, individual items from the various RPSS and CISS subscales were grouped into three distinct parcels each and then used as indicators of their respective religious and nonreligious coping strategies. Parcels for the religious coping strategies (Collaborative, Deferring, and Self-Directing) were comprised of four items each, while parcels for the nonreligious coping strategies (Task-Oriented, Emotion-Oriented, and Avoidance) were comprised of five, five, and six items each. In all, the mediating effects of various coping strategies on the relationships between personality and mental health were tested in 48 distinct models.

When the mediational models were run, three of the models involving Extraversion had negative error variance estimates. For these models, the error variance was fixed to 0.01 and then run again.

Chi-square statistics, degrees of freedom, CFI, RMSEA, and the standardized regression coefficients for models including Neuroticism and Extraversion are presented in Tables 16 and 17. Similar indices for the exploratory models, which included Big Five traits: Agreeableness and Conscientiousness, are presented in Appendixes A and B. These models are described as exploratory because hypotheses were not offered regarding the potential mediation of relationships involving Agreeableness and Conscientiousness and past research has more fully explored the associations of Neuroticism and Extraversion with both mental health and coping.

Table 16

Model Fit and Standardized Path Coefficients for Mediational Models with Negative Mental Health Outcomes

Model	X^2	df	CFI	RMSEA	IV-DV	IV-M	M-DV
NEGATIVE MENTAL HEALTH OUTCOME VARIABLES (DISTRESS)							
Nonreligious Coping							
N – Avoid – Dist	58.263**	17	.969	.090	.745**	.033	.012
E – Avoid – Dist	36.566**	18	.983	.059	-.275**	.215**	.097
N – Task – Dist	52.614**	17	.975	.084	.759**	-.204**	.068
E – Task – Dist	41.411**	18	.981	.066	-.253**	.348**	-.003
N – Emotion – Dist	64.317**	17	.971	.096	.511**	.666**	.352**
E – Emotion – Dist	33.322*	18	.989	.053	-.139**	-.173**	.669**
Religious Coping							
N – Collab – Dist	59.791**	17	.979	.092	.745**	-.121	-.002
E – Collab – Dist	24.411*	17	.996	.038	-.159*	.257**	-.057
N – Self – Dist	36.610**	17	.990	.062	.746**	.097	-.009
E – Self – Dist	11.384	17	1.000	. 000	-.188**	-.138*	.047
N – Defer – Dist	57.189**	17	.978	.089	.749**	-.110	.031
E – Defer – Dist	36.117**	17	.989	.061	-.185**	.230**	-.007

Note. * = $p < .05$; ** = $p < .01$. Within the structural models depicted above, the independent variable (IV) was always a Big Five personality trait, the mediator (M) was always a coping strategy, and the dependent variable (DV) was always the latent distress variable. Models with 18 degrees of freedom had one error variance estimate fixed, as described in the text.

N = Neuroticism; E = Extraversion; Dist = Distress; Avoid = Avoidance; Task = Task-Oriented Coping; Emotion = Emotion-Oriented Coping; Collab = Collaborative Religious Coping; Self = Self-Directing Religious Coping; Defer = Deferring Religious Coping; CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

Table 17

Model Fit and Standardized Path Coefficients for Mediational Models with Positive Mental Health Outcomes

Model	X^2	df	CFI	RMSEA	IV-DV	IV-M	M-DV
POSITIVE MENTAL HEALTH OUTCOME VARIABLES (FLOURISHING)							
Nonreligious Coping							
N – Avoid – Flo	47.020**	17	.974	.077	-.583**	.017	.186**
E – Avoid – Flo	35.601**	17	.984	.060	.367**	.195**	.100
N – Task – Flo	62.459**	17	.965	.095	-.520**	-.206**	.304**
E – Task – Flo	73.813**	17	.956	.106	.300**	.251**	.321**
N – Emotion – Flo	52.650**	17	.975	.084	-.528**	.663**	-.075
E – Emotion – Flo	21.142	17	.997	.029	.341**	-.144*	-.377**
Religious Coping							
N – Collab – Flo	67.865**	17	.973	.100	-.548**	-.121	.290**
E – Collab – Flo	55.724**	17	.979	.087	.331**	.253**	.255**
N – Self – Flo	38.490**	17	.987	.065	-.562**	.104	-.148**
E – Self – Flo	38.015**	17	.988	.064	.380**	-.132*	-.148*
N – Defer – Flo	50.275**	17	.980	.081	-.557**	-.110	.195**
E – Defer – Flo	46.325**	17	.982	.076	.359**	.226**	.165**

Note. * = $p < .05$; ** = $p < .01$. Within the structural models depicted above, the independent variable (IV) was always a Big Five personality trait, the mediator (M) was always a coping strategy, and the dependent variable (DV) was always the latent flourishing variable.

N = Neuroticism; E = Extraversion; Flo = Flourishing; Avoid = Avoidance; Task = Task-Oriented Coping; Emotion = Emotion-Oriented Coping; Collab = Collaborative Religious Coping; Self = Self-Directing Religious Coping; Defer = Deferring Religious Coping; CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

Table 16 and Appendix A depict models predicting negative mental health outcomes, whereas Table 17 and Appendix B depict models predicting positive mental health outcomes. Results of the exploratory mediational analyses, while interesting, ought to be replicated first before being interpreted and discussed at length. Therefore, further discussion of these analyses will end here.

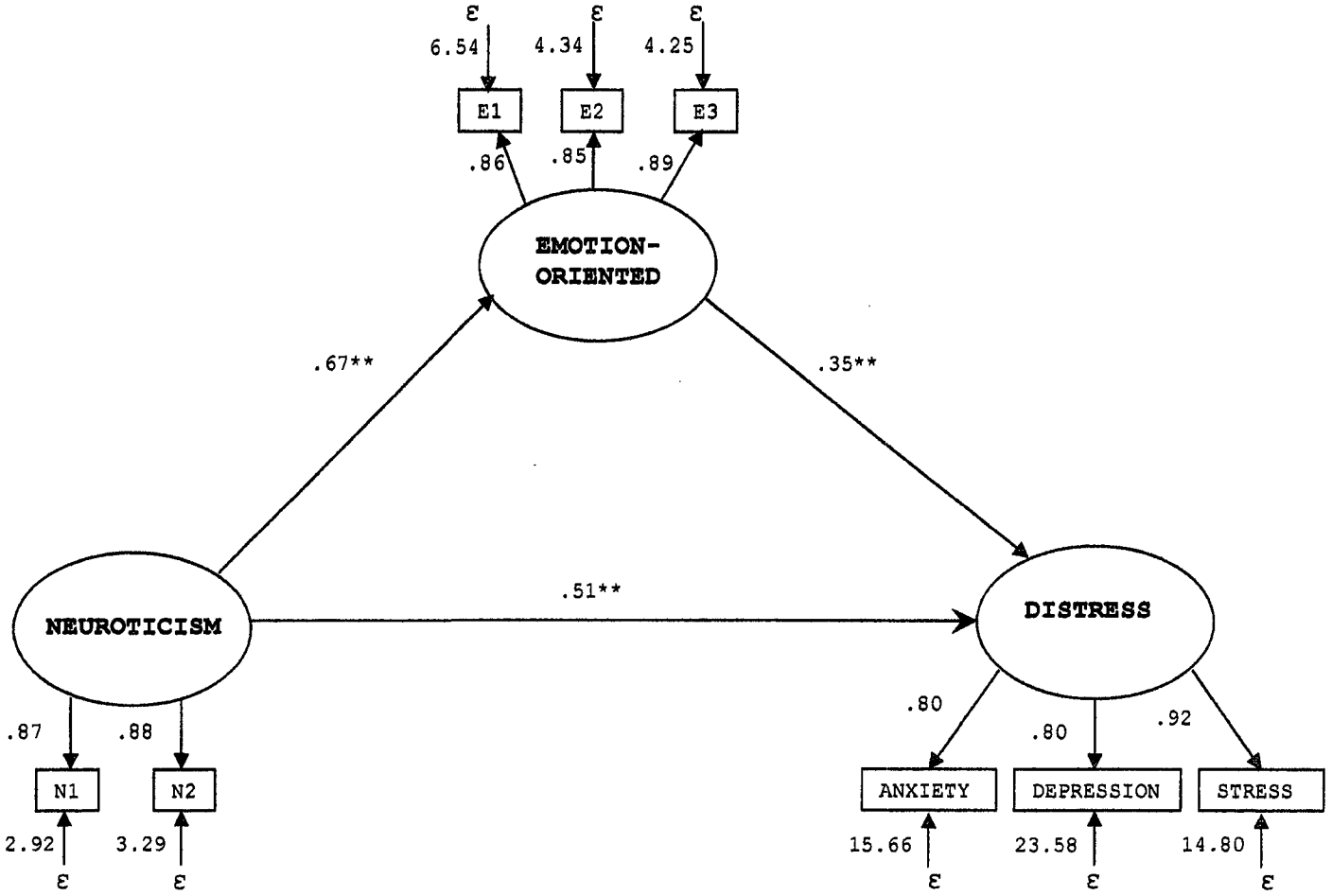
Results of the mediational analyses depicted in Tables 16 and 17 indicate that the mediational models ranged from good to marginal representations of the data in most instances, but were poor representations of the data in two instances. The models with poor fit indices included: Collaborative religious coping mediating the relationship between Neuroticism and the

latent flourishing variable and Task-Oriented coping mediating the relationship between Extraversion and the latent flourishing variable. More specifically, although the CFI fit statistics were acceptable for each of the aforementioned mediational models, the RMSEA fit statistics failed to meet the cutoff for even marginal fit. Consequently, these models were not interpreted.

For the remaining 22 mediational models, CFI fit statistics ranged from .965 to 1.000 and comfortably exceeded Hu and Bentler's (1999) recommended cutoff score of .95. However, RMSEA fit statistics of the aforementioned mediational models were much more variable and ranged from .000 to .096. Overall, 5 of the mediational models had RMSEA fit statistics that indicated a good fit to the data, whereas 8 other mediational models had RMSEA fit statistics that indicated a reasonable fit to the data, and the remaining 9 mediational models had RMSEA fit statistics that indicated a marginal fit to the data. In general, the mediational models predicting negative mental health outcome variables were better representations of the data than the models predicting positive mental health outcome variables.

Among those models predicting negative mental health outcome variables (see Table 16), two provided evidence of partial mediation. Interestingly, both of these models involved the Emotion-Oriented coping strategy. More specifically, Neuroticism and Extraversion were both indirectly related to the latent distress variable via their strong associations with Emotion-Oriented coping. See Figure 1 for an example of a model demonstrating partial mediation. As depicted in Figure 1, partial mediation was evidenced by statistically significant standardized regression weights from the independent variable (Neuroticism) to the mediating variable (Emotion-Oriented coping), and from the mediating variable (Emotion-Oriented coping) to the dependent variable (distress). However, the regression weight for the path from the independent variable to the dependent variable was also statistically significant, which suggests a meaningful direct relationship with the dependent variable, even after controlling for the mediated relationship.

Figure 1. Structural model of Distress, Neuroticism, and Emotion-Oriented coping. All parameter estimates are standardized and were statistically significant. Error terms are error variances and not regression weights. N = BFI-44 Neuroticism item parcels, E = CISS Emotion-Oriented item parcels, Anxiety = DASS Anxiety subscale score, Depression = DASS Depression subscale score, Stress = DASS Stress subscale score.
* = p < .05; ** = p <.01.



Among those models predicting positive mental health outcomes (see Table 17), 5 provided evidence of partial mediation. Emotion-Oriented coping continued to fulfill a mediating role by partially mediating the relationship between Extraversion and the latent flourishing variable. This time, however, several other coping approaches also featured prominently in models evidencing partial mediation. Specifically, use of the Collaborative, Deferring, and Self-Directing religious coping approaches partially mediated the relationship between Extraversion and the latent flourishing variable. In the remaining model, Neuroticism was indirectly related to the latent flourishing variable via its strong association with Task-Oriented coping.

CHAPTER VII

DISCUSSION

The current study had three basic goals. The first goal was to address the concerns of Siegel et al. (2001) and evaluate whether religious coping strategies contributed uniquely to the prediction of mental health outcomes or whether its contributions could be better explained by nonreligious coping strategies. The second goal was to determine the opposite: whether nonreligious coping strategies accounted for unique variance in mental health, after controlling for religious coping strategies. The third goal was to further delineate the relationships between the personality, mental health, and coping strategies by determining whether coping strategies mediated the relationships between personality and mental health.

Initial Analyses

Of particular interest in the initial results were the basic relationships between coping and mental health. Previous examinations of the relationships between coping strategies, both religious and nonreligious, and mental health have indicated that these constructs are closely related. Efforts to replicate the results of earlier studies were mixed and are depicted in Table 8. In many instances, the results of the current study supported the findings of earlier studies. However, in four instances, the results of the current study found no relationship, despite the results of earlier studies suggesting significant relationships. In one additional instance, the current study actually found a relationship opposite of that which had been previously reported. Of course, the current study also found many new relationships between coping and mental health that had not been previously reported. Most of these relationships involved positive mental health outcomes (i.e., life satisfaction, quality-of-life, and hopefulness), whose associations with coping were largely ignored until now.

Also of interest in our preliminary analyses were the basic relationships between personality and mental health. Unlike the aforementioned basic relationships between coping and mental health, results of these analyses corroborated the previously reported associations between

the Big Five and mental health and are also depicted in Table 8. Although, once again, there were many new relationships between the Big Five and mental health, most of these relationships did not involve the positive mental health outcomes. Instead, the current study found many previously undetected relationships between the negative mental health outcomes (i.e., depression, anxiety, and stress) and Agreeableness, Conscientiousness, and Openness.

The last relationships of interest in our preliminary analyses were the basic relationships between coping and Big Five traits. Overall, results of our analyses yielded a wide range of significant relationships between coping and personality. Efforts to replicate the results of earlier studies were successful in the vast majority of instances and are depicted in Table 7. As was explained in the introduction, most studies of the basic correlations between coping and personality have dealt specifically with nonreligious coping strategies. Efforts to replicate these studies were largely successful as the current study found just one instance in which the results of our analyses differed from those found in earlier studies. In addition, the current study found no new relationships between nonreligious coping and personality.

Huhra's (2008) study of male and female veterans is the only test of the relationships between personality and religious coping among adults in the United States and the current study replicated the significant relationships found there in all but two instances. The current study did, however, uncover two previously unreported relationships between religious coping and personality.

Religious and Nonreligious Coping Strategies Predicting Mental Health

In describing the limitations of the existing religious coping literature, Siegel et al. (2001) wrote that, "researchers have often failed to partial out the effects of religiosity or religious coping above and beyond the contribution of traditional coping variables" (p. 646). As was previously mentioned, the current study's first goal was to determine whether religious coping strategies accounted for unique variance in mental health, after controlling for nonreligious

coping strategies. Previous studies of whether religious and nonreligious coping were redundant with each other have produced mixed results; however, in accordance with the findings of Pargament et al. (1990) and Burker et al. (2005), it was hypothesized that religious coping would predict unique variance in mental health, above and beyond nonreligious coping.

Predictive utility of religious coping strategies, independent of nonreligious coping strategies, was demonstrated using hierarchical multiple regression analyses. For the multiple regression analyses predicting negative mental health outcomes and quality of life, the religious coping strategies failed to add predictive information above and beyond the nonreligious coping strategies. This suggests that consideration of religious coping strategies fails to improve the prediction of negative mental health outcomes and quality of life. However, for the multiple regression analyses predicting hopefulness and life satisfaction, the religious coping strategies consistently added predictive information above and beyond the nonreligious coping strategies, leading to increases in the percentage of variance accounted for that were both noteworthy and statistically significant. This finding supports our hypothesis and also suggests that religious coping strategies ought to be considered in addition to nonreligious coping strategies when predicting positive mental health outcomes, such as hopefulness and life satisfaction.

The incremental validity of religious coping strategies in the prediction of hopefulness and life satisfaction was further evaluated by commonality analyses, which specifically quantified the unique variance accounted for, above and beyond that of nonreligious coping strategies. More specifically, nonreligious coping strategies uniquely accounted for 24.7% of the variance in hopefulness and 17.7% of the variance in life satisfaction; whereas religious coping strategies uniquely accounted for 7.4% of the variance in hopefulness and 6.8% of the variance in life satisfaction. The percentages of variance commonly predicted by both the religious and nonreligious coping strategies were 13.6% for hopefulness and 4.3% for life satisfaction.

The current study's second goal was to determine whether nonreligious coping strategies accounted for unique variance in mental health, after controlling for religious coping strategies.

Once again, hierarchical multiple regression analyses were used to demonstrate the predictive utility of nonreligious coping strategies, independent of religious coping strategies. Results indicated that the nonreligious coping strategies contributed statistically significant increases above and beyond the religious coping strategies in the prediction of all mental health outcomes. This suggests that nonreligious coping strategies should always be considered when predicting mental health outcomes. In other words, considering the influence of nonreligious coping strategies, above and beyond religious coping strategies, always improves one's ability to predict mental health outcomes.

For negative mental health outcomes, commonality analyses indicated that nonreligious coping strategies uniquely accounted for 33.4% of the variance in depression, 24.3% of the variance in anxiety, and 40.0% of the variance in stress. The percentage of variance in negative mental health variables uniquely accounted for by religious coping strategies never rose above 1.1%, and the percentage of variance common to both the religious and nonreligious coping strategies was never more than 1.9%. For quality of life, nonreligious coping strategies accounted for 16.2% of its variance, religious coping strategies accounted for 2.7% of its variance, and the commonality component accounted for 4.0% of its variance.

Mediational Analyses

The study's final goal was to explore whether any of the coping strategies mediated the relationships between personality and mental health. All Big Five traits, except Openness, were separately run in the mediational models as independent variables. Coping strategies were also separately run in the mediational models. Mental health outcomes, however, were grouped into latent distress and flourishing variables and used as the dependent variables in the mediational models.

Hypotheses were only offered for mediational analyses involving Neuroticism or Extraversion, as associations with these Big Five traits have been more rigorously studied than associations with any other Big Five traits. Despite this, several mediational models were run as

exploratory analyses in order to determine whether the relationships between Agreeableness and mental health, as well as Conscientiousness and mental health, were mediated by various coping strategies. Openness was excluded from these analyses because it demonstrated associations with just two mental health variables. Furthermore, although the results of our exploratory analyses were interesting, further interpretation of the meditational analyses will focus exclusively on models involving either Neuroticism or Extraversion.

Overall, the results provided promising evidence that many of the relationships between Neuroticism, Extraversion, and mental health are mediated by coping strategies. Evidence of partial mediation was found in two models predicting negative mental health outcomes and five models predicting positive mental health outcomes.

Interestingly, three of the four models involving Emotion-Oriented coping demonstrated evidence of partial mediation. This finding is consistent with many of the hypotheses made earlier. For example, evidence that Emotion-Oriented coping partially mediates the relationships between Neuroticism and distress, as well as Extraversion and distress, was consistent with our hypotheses. Furthermore, evidence that Emotion-Oriented coping partially mediates the relationship between Extraversion and the latent flourishing variable also supports our hypotheses. Emotion-Oriented coping did not, however, mediate the relationship between Neuroticism and the latent flourishing variable and in this instance our hypothesis concerning this relationship was unsupported.

There are a number of potential reasons as to why use of Emotion-Oriented coping mediated many of the relationships between personality and mental health. Offering hypotheses for all models evidencing partial mediation is not practical given the large number of models evidencing partial mediation. However, hypotheses were offered for two of the models involving Emotion-Oriented coping because these relationships appeared particularly noteworthy and interesting.

One potential reason Emotion-Oriented coping mediated the relationship between Neuroticism and the latent distress variable, is that individuals who are apt to be anxious and moody are predisposed to make use of coping strategies meant to ameliorate the negative emotions associated with stressful situations. Conversely, one potential reason Emotion-Oriented coping mediated the relationship between Extraversion and the latent distress variable, is that the personality characteristics associated with Extraversion make it difficult for individuals to activate and use Emotion-Oriented coping strategies. By definition, these strategies are meant to ameliorate the negative emotions associated with stressful situations and highly extraverted individuals may be so assertive and energetic that Emotion-Oriented coping strategies may seem too indirect or even directionless.

Several other coping approaches also featured prominently in models evidencing partial mediation. Specifically, use of the Collaborative, Deferring, and Self-Directing religious coping approaches partially mediated the relationship between Extraversion and the latent flourishing variable. Evidence that the Collaborative and Deferring religious coping approaches fulfilled a mediating role supported our hypotheses; however, the Self-Directing religious coping approach was not hypothesized to mediate any of the relationships between personality and mental health. Finally, Neuroticism was found to be indirectly related to the latent flourishing variable via its strong association with Task-Oriented coping. This result was also consistent with our hypotheses.

Overall, these mediational analyses suggest that many of the relationships between Neuroticism, Extraversion, and mental health are at least partially attributable to the Big Five's associations with various coping strategies. Our hypotheses were supported in many instances; however, there were also several instances in which our hypotheses went unsupported. For example, Task-Oriented coping mediated just one relationship between personality and mental health: the relationship between Neuroticism and positive mental health outcomes, but was hypothesized to mediate four relationships between personality and mental health. Furthermore,

the Collaborative and Deferring religious coping approaches also mediated just one relationship between personality and mental health, but were hypothesized to mediate four relationships between personality and mental health apiece.

Positive Psychology

By and large, the current study was successful in helping further the positive psychology literature. By including positive outcomes in our analyses, the current study was able to discover interrelations between personality, coping, and mental health that would have gone undetected had the outcome measures only assessed degrees of pathology. For example, the Deferring religious approach and the Avoidance nonreligious approach failed to demonstrated significant relationships with the negative mental health variables, but they did relate positively with many of the positive mental health variables. More specifically, both coping strategies were positively correlated with quality of life and hopefulness; however, the Deferring religious approach was unique in its positive association with life satisfaction.

Results of our multiple regression analyses also supported the inclusion of positive outcomes in future research. In fact, if only negative outcomes had been included in our multiple regression analyses, our results would have suggested that religious coping strategies were unable to predict mental health outcomes. However, because hopefulness, life satisfaction, and quality of life were included, our analyses indicated that religious coping strategies, as a group, were quite useful in predicting all positive mental health variables.

Furthermore, if only negative outcomes had been included when attempting to discern whether religious coping strategies accounted for unique variance in mental health outcomes, above and beyond nonreligious coping strategies, our conclusions would have been much different. More specifically, because hopefulness and life satisfaction were included in our analyses, it can now be confirmed that religious coping strategies add unique variance to the prediction of certain mental health outcomes.

Finally, because positive outcomes were included in the mediational analyses, five additional instances in which various coping strategies partially mediated the relationships between Big Five personality traits and mental health were identified. Without the positive outcomes, our results would have only identified two instances of partial mediation.

Study Limitations and Recommendations for Future Research

The current study, much like any other, was not without its limitations. One limitation was the constrained sample. All participants in the current study were undergraduate students enrolled in psychology courses at USM. In addition, roughly two-thirds of the overall sample was female and just 9% of participants represented ethnicities other than African American and Caucasian. Finally, although a range of religious affiliations was evident in the sample, the overwhelming majority of participants were Christian. In summation, the current study's sample is rather homogenous, which limits the generalizability of its findings. Accordingly, it would be informative to replicate this type of study with a more diverse group of participants. In particular, because the use of religious coping is especially prevalent among the elderly, it would be interesting to see how the results of the current study would compare with a similar study involving much older participants. It would also be interesting to see if religious coping predicts a larger percentage of unique variance in mental health above and beyond nonreligious coping in a sample where it is verified that everyone is highly religious.

A second limitation was the South's unique affiliation with religion. According to Smith, Sikkink, and Bailey (1998), Southerners attend church more often than individuals from other parts of the United States. Higher levels of religiosity have also been associated with residents in the South (Nelson & Potvin, 1981). Knowing this, it seems plausible that Southerners might also use their religion to cope in a manner different from individuals in other regions of the country. Therefore, this study should be replicated in other areas of the United States.

A third limitation was the reliance on self-report measures. Although self-report measures have many advantages, they come with certain disadvantages as well. For example, responses to

self-report measures may be influenced by social desirability biases, demographic influences, and the difficulty of memory reconstruction (Amirkhan, 1990). Retrospective self-reports are perhaps the least reliable form of self-report measures; therefore, in order to minimize the problem of inaccurate recall, participants within the current study were asked to identify their responses to recent stressors. However, as Folkman & Lazarus (1985) have already explained, self-report measures are not inherently less desirable than other methods of clinical evaluation or objective indices. Rather, their use merely dictates that other methods of inquiry must also be used in order to confirm the veracity of self-report findings. As a result, it is imperative for future research to include other non-self-report measures such as psychophysiological assessment or behavioral observation in their analyses. Use of stress-inducing experimental paradigms should also be considered.

A fourth limitation was the severity of reported stressors. Because the majority of items on the CCLSS (Towbes & Cohen, 1996) were relatively minor (i.e., roommate conflict, long-distance relationship, and behind in schoolwork), results of the current study may not be generalizable to coping with more severe stressors. It would be interesting, then, if future research were to examine whether the relationships between personality, coping, and mental health would be different if participants were asked to identify their preferred coping strategies in response to more serious and distressing stressors (e.g., major life stressors, chronic/life threatening illness).

Summary

Despite its limitations, the current study appears to have made an important contribution to the literature by furthering our understanding of the complex interrelations among personality traits, religious and nonreligious coping strategies, and mental health outcomes. Hierarchical multiple regression analyses offered some clarity regarding religion's involvement in the coping process by demonstrating that religious coping strategies were not effectively redundant with nonreligious forms of coping. However, had positive outcomes not been included in the

aforementioned analyses, our conclusions would have been the opposite. As a result, the current study was successful in advancing the tenets of positive psychology.

An interesting avenue of future research will be to expand on our efforts to advance the field of positive psychology by continuing to evaluate outcomes that reflect more than the mere absence or lessening of psychopathology. The current study took a first step towards elucidating the relationships between coping, personality, and positive outcomes by including such mental health variables as hopefulness, quality of life, and life satisfaction in its analyses. However, if future research fails to incorporate other positive outcomes like positive relations with others or self-acceptance, that picture will remain incomplete.

Lastly, the current study appears to have been successful in further explicating the interrelations among coping, personality, and mental health by demonstrating through SEM that various coping strategies mediate the relationships between personality and mental health. Future researchers are encouraged to build on these findings by testing longitudinal designs and more complex models. Perhaps the type, duration, or severity of stressors will change the nature of these relationships.

In summation, the current results suggest that both religious and nonreligious coping strategies provide unique information about mental health outcomes. However, religious and nonreligious coping strategies appear to relate differently to mental health, depending on whether positive or negative outcomes are studied. This finding provides further evidence that a state of flourishing is something different from the mere absence of pathology. In time, as the influence of religious and nonreligious coping strategies on negative and positive outcomes becomes better understood, such information will hopefully help people to lead lives that are truly well-lived.

APPENDIX A
EXPLORATORY MEDIATIONAL ANALYSES WITH NEGATIVE OUTCOMES

Model Fit and Standardized Path Coefficients for Mediational Models with Negative Mental Health Outcomes

Model	X^2	df	CFI	RMSEA	IV-DV	IV-M	M-DV
NEGATIVE MENTAL HEALTH OUTCOME VARIABLES (DISTRESS)							
Nonreligious Coping							
A – Avoid – Dist	33.048*	17	.986	.056	-.441**	.132	.096
C – Avoid – Dist	38.054**	17	.981	.064	-.334**	-.016	.032
A – Task – Dist	37.217**	17	.984	.063	-.438**	.305**	.043
C – Task – Dist	33.304*	17	.987	.057	-.365**	.425**	.063
A – Emotion – Dist	38.654**	17	.984	.065	-.224**	-.332**	.618**
C – Emotion – Dist	37.214**	17	.986	.063	-.065	-.406**	.665**
Religious Coping							
A – Collab – Dist	29.463*	17	.993	.050	-.472**	.420**	.099
C – Collab – Dist	25.902	17	.995	.042	-.342**	.318**	.009
A – Self – Dist	21.255	17	.998	.029	-.472**	-.385**	-.109
C – Self – Dist	21.681	17	.997	.030	-.341**	-.243**	-.009
A – Defer – Dist	35.384**	17	.989	.060	-.460**	.315**	.094
C – Defer – Dist	36.418**	17	.988	.062	-.332**	.189**	.012

Note. * = $p < .05$; ** = $p < .01$. Within the structural models depicted above, the independent variable (IV) was always a Big Five personality trait, the mediator (M) was always a coping strategy, and the dependent variable (DV) was always the latent distress variable. Models with 18 degrees of freedom had one error variance estimate fixed, as described in the text.

A = Agreeableness; C = Conscientiousness; Dist = Distress; Avoid = Avoidance; Task = Task-Oriented Coping; Emotion = Emotion-Oriented Coping; Collab = Collaborative Religious Coping; Self = Self-Directing Religious Coping; Defer = Deferring Religious Coping; CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

APPENDIX B
EXPLORATORY MEDIATIONAL ANALYSES WITH POSITIVE OUTCOMES

Model Fit and Standardized Path Coefficients for Mediational Models with Positive Mental Health Outcomes

Model	X^2	df	CFI	RMSEA	IV-DV	IV-M	M-DV
POSITIVE MENTAL HEALTH OUTCOME VARIABLES (FLOURISHING)							
Nonreligious Coping							
A – Avoid – Flo	47.555**	17	.971	.078	.452**	.120	.121
C – Avoid – Flo	51.082**	17	.969	.082	.503**	-.020	.185**
A – Task – Flo	77.581**	17	.950	.109	.409**	.285**	.304**
C – Task – Flo	67.420**	17	.959	.100	.408**	.431**	.229**
A – Emotion – Flo	50.019**	17	.973	.081	.363**	-.323**	-.308**
C – Emotion – Flo	44.864**	17	.978	.074	.372**	-.417**	-.271**
Religious Coping							
A – Collab – Flo	63.627**	17	.974	.096	.404**	.411**	.184**
C – Collab – Flo	62.704**	17	.975	.095	.437**	.328**	.207**
A – Self – Flo	50.603**	17	.980	.081	.457**	-.376**	-.033
C – Self – Flo	53.473**	17	.978	.085	.476**	-.252**	-.086
A – Defer – Flo	56.210**	17	.975	.088	.434**	.304**	.125*
C – Defer – Flo	58.528**	17	.973	.090	.468**	.191**	.168**

Note. * = $p < .05$; ** = $p < .01$. Within the structural models depicted above, the independent variable (IV) was always a Big Five personality trait, the mediator (M) was always a coping strategy, and the dependent variable (DV) was always the latent flourishing variable.

A = Agreeableness; C = Conscientiousness; Flo = Flourishing; Avoid = Avoidance; Task = Task-Oriented Coping; Emotion = Emotion-Oriented Coping; Collab = Collaborative Religious Coping; Self = Self-Directing Religious Coping; Defer = Deferring Religious Coping; CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

APPENDIX C
INSTITUTIONAL REVIEW BOARD APPROVAL FORM

HUMAN SUBJECTS REVIEW FORM
UNIVERSITY OF SOUTHERN MISSISSIPPI
(SUBMIT THIS FORM IN DUPLICATE)

Protocol # 27101802
(office use only)

Name Jude Henningsgaard Phone 601-329-1504

E-Mail Address judehenningsgaard@hotmail.com

Mailing Address 6490 US Highway 49N Apartment 127 Hattiesburg, MS 39401
(address to receive information regarding this application)

College/Division College of Education and Psychology Dept Psychology

Department Box # 5025 Phone 601-266-4593

Proposed Project Dates: From 10/8/2007 To 10/7/2008
(specific month, day and year of the beginning and ending dates of full project, not just data collection)

Title Personality, Coping Styles, and Psychological Well-Being

Funding Agencies or Research Sponsors NA

Grant Number (when applicable) NA

X New Project

X Dissertation or Thesis

____ Renewal or Continuation: Protocol #

____ Change in Previously Approved Project: Protocol #

Principal Investigator — Date 10/1/2007

Advisor Randy Arnau — Date 10/8/07

Department Chair — Date 10/8/07

RECOMMENDATION OF HSPRC MEMBER

____ Category I, Exempt under Subpart A, Section 46.101 ( ) ( ), 45CFR46.

X Category II, Expedited Review, Subpart A, Section 46.110 and Subparagraph (B).

____ Category III, Full Committee Review.

HSPRC College/Division Member — DATE 10-18-07

Laurence A. Herman — DATE 10-29-07
HSPRC Chair

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