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# General Religiosity and Use of Religious Coping as Predictors of Treatment Gains for Patients with Schizophrenia and Their Relatives

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UNIVERSITY OF MIAMI

GENERAL RELIGIOSITY AND USE OF RELIGIOUS COPING AS PREDICTORS  
OF TREATMENT GAINS FOR PATIENTS WITH SCHIZOPHRENIA AND THEIR  
RELATIVES

By

Eugenio A. Duarte

A DISSERTATION

Submitted to the Faculty  
of the University of Miami  
in partial fulfillment of the requirements for  
the degree of Doctor of Philosophy

Coral Gables, Florida

August 2009

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General Religiosity and Use of Religious Coping  
as Predictors of Treatment Gains for Patients with  
Schizophrenia and their Relatives

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Abstract of a dissertation at the University of Miami.

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While research on religion and severe psychopathology is mixed, the majority of evidence suggests that greater religiosity and greater use of religious forms of coping relate to beneficial psychosocial outcomes for both patients with schizophrenia (Huguelet et al., 2006; Moss et al., 2006) and their family members (Pearce et al., 2006; Roff et al., 2004). However, this data is generally cross-sectional. To date, scant research has longitudinally examined how religious beliefs and practices relate to key indicators of psychosocial outcomes for patients with schizophrenia and their relatives. This study used a White and Hispanic sample of 41 patients with schizophrenia and 57 relatives of such patients to examine cross-sectional and longitudinal links between religion and mental health. Results showed that increases in the use of religious forms of coping over time significantly predicted decreases in emotional distress for family members. Results also supported the hypothesis that greater positive and lessor negative forms of religious coping would relate to beneficial outcomes for patients and family members. Lastly, this study found that, for patients, ethnicity appeared to moderate the link between religiosity and outcome. Findings from this study highlight the importance of religion to patients and caregivers coping with schizophrenia. Clinicians treating patients with schizophrenia and their loved ones are cautiously encouraged to explore religion with their clients, with particular attention to its differential influence among patients versus relatives and among Whites versus Hispanics.

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## Chapter 1: Introduction

### Overview:

For many individuals, religion and spirituality play important roles in life. In fact, over three quarters of the U.S. population report some type of religious affiliation (U.S. Census, 2006), and 95% express belief in God (Kroll & Sheehan, 1989). Research suggests that individuals with severe psychopathology, such as schizophrenia, demonstrate rates of religiosity and spirituality comparable to those of the general population (Baetz, Larson, Marcoux, Bowen, & Griffin, 2002; Fitchett, Burton, & Sivan, 1997). A large body of literature further suggests that the majority of seriously mentally ill patients and their relatives report that religion and spirituality play important roles in their coping with mental illness (Weisman, Gomes, & López, 2003; D'Souza, 2002; Rogers, Poey, Reger, Tepper, & Coleman, 2002).

However, religion is often ignored in treatment programs for the mentally ill. One possible reason is clinician's discomfort with discussing religion in therapy (Huguelet, Mohr, Borrás, Gillieron, & Brandt, 2006). Another possible reason is that, while the majority of existing studies indicate beneficial associations between religion and mental health, a few studies have found opposite results. For example, one study found that identifying as religious predicted greater number of religious delusions, which are associated with increased duration of psychopathology (Siddle, Haddock, TARRIER, & Faragher, 2002).

Prior studies are limited, however, because they have generally examined the effects of religion and spirituality using cross-sectional designs. This limitation is problematic because researchers finding a beneficial relationship between religiosity and

mental health have been unable to determine whether religion and spirituality confer stress-buffering effects that result in reduced distress and enhanced well-being, or whether lower stress and greater psychological health in patients and caregivers grant them the ability and motivation to seek out and benefit from spiritual involvement. A similar limitation characterizes the few studies that found that greater religiosity among schizophrenia patients related to more severe symptoms and longer length of illness. Thus, based on the current literature, it is not clear whether changes in religious beliefs and behaviors would lead to subsequent changes in mental health for patients with schizophrenia and their relatives. This study examined how increases in levels of general religiosity and religious coping related to changes in psychosocial outcomes for families coping with schizophrenia.

In particular, the present study examined how levels of religious involvement and use of religious forms of coping related to schizophrenia symptom severity, subjective burden, general emotional distress, and quality of life among schizophrenia patients and their relatives enrolled in a family-focused therapy for schizophrenia. By using longitudinal data to examine changes in religiosity as they related to changes in mental health outcomes, this study aimed to correct for the limitations of previous studies. Given the availability of such longitudinal data, this study uniquely examined how participants' levels of religious involvement at treatment-entry predicted their indices of mental health at treatment-termination. Below, an overview is offered of the available literature on religion and its links to mental health for individuals with severe mental illness and their family members. Next, the specific hypotheses to be tested in this study

are discussed. This introduction concludes with a description of the specific methodology that was employed in this study.

Religiosity/Spirituality:

While the terms religion and spirituality will be used interchangeably, they have been recognized as distinct constructs by previous researchers. According to Sperry (2001), religiosity is the degree to which one adheres to beliefs and practices shared by a community, while spirituality refers to one's search for meaning and belonging and the fundamental values that influence one's behavior.

The vast body of literature on religion and spirituality suggests that these constructs are relevant and valuable for the majority of individuals in the United States. According to the U.S. Census Bureau (2006), more than 75% of the population reports some form of religious affiliation. However, until recently, there has been a lack of research into the religious beliefs and practices of individuals with severe mental illness and how such values relate to mental health for patients and their relatives. (Kroll & Sheehan, 1989)

Kroll and Sheehan (1989) were among the first researchers to study spirituality among those suffering from psychopathology. They examined rates of religious beliefs among 52 psychiatric inpatients in Minnesota, and they compared these rates to those of national (i.e., 1981 Gallup sample) and local (i.e., 1987 Minnesota poll) samples. Almost half of the patients were diagnosed with severe psychotic, mood, or anxiety disorders (i.e., schizophrenia, major depression, mania, or anxiety). The researchers found that 95% of inpatients answered affirmatively to the question, "Do you believe in God?" similar to 95% of the Gallup sample and 95% of the Minnesota sample. Furthermore, 79% of

inpatients responded “yes” to the question “Do you believe in an afterlife?” compared to 71% and 76% of the Gallup and Minnesota samples, respectively. These early findings showed that rates of religiosity among individuals with serious psychopathology are comparable to those of the general population.

Neeleman and Lewis (1994) sought to expand on Kroll and Sheehan’s (1989) findings by including a non-psychiatric control group in their study on religious beliefs and practices among psychiatric patients. These authors examined self-reported religious beliefs and practices among four groups of participants: depressed patients (n = 26), deliberate self-harm (DSH) patients (n = 26), psychotic patients (n = 21), and non-psychiatric controls (n = 26). Their results showed that patients with psychosis scored highest among the total sample on several measures of religious practices and experiences, including personal religious experiences and abiding by religiously-based food restrictions. Their findings also indicated that religious beliefs were most pronounced among the more severely ill patients. These results underscored previous findings by Kroll and Sheehan indicating that, much like in the general population, religion and spirituality are meaningful aspects of life for patients with severe mental illness.

Walsh (1995) shed some light on the similarity between psychiatric and non-psychiatric individuals on spirituality. He argued that individuals with schizophrenia do not experience significant changes in their religious orientations following the onset of their illness. Although thought processes often become impaired, he proposed that patients’ religious orientations are formed early in life and, therefore, tend to remain

intact despite the emergence of thought disorder. Thus, faith likely remains important for these patients even after they begin to manifest symptoms of severe mental illness.

A study by Fitchett, Burton, and Sivan (1997) lent further support to the salience of religion among the severely mentally ill. They examined the religious needs and resources of 51 mid-western psychiatric inpatients and compared them to those of 50 controls (general medical/surgical patients). Patients had diagnoses of depression (39%), bipolar depression (28%), schizoaffective disorder (14%), unspecified mood disorder (6%), or other condition (e.g., paranoia, alcohol/substance abuse, panic disorder; 14%). Their findings indicated that psychiatric patients and controls were similar in their reported spiritual needs, including needs for prayer, communion/sacraments, purpose and meaning in life, and knowledge of God's presence. Results also showed that nearly equal proportions of psychiatric patients (80%) and controls (86%) identified themselves as spiritual, and over two-thirds of both groups said religion offers them a great deal of support and comfort.

Similar studies have documented the importance of religion to relatives of medically ill individuals. One study by Brazil et al. (2005) interviewed 373 caregivers of terminally ill patients residing in Ontario, Canada and asked about the five services each caregiver found most valuable in coping with their loved one's illness. The authors ranked the services most valued by caregivers and found that religious support was the sixth most valued source of assistance out of a list of 24, outranked only by in-home nursing care, medical specialists, family physicians, housekeeping, and case management, respectively. The authors also found that 42% of caregivers ranked religious support as the most valuable assistance they received. In addition, Hebert, Weinstein, Maritire, and

Schulz (2006) found, in a review of the literature on religiosity and caregiver well-being, that religion was one of the most salient coping resources utilized by caregivers in dealing with a loved one's illness.

In sum, these studies on rates of religiosity demonstrate that severely ill patients and their caregiving relatives frequently turn to religion in coping with mental illness and identify religion as essential for their overall well-being. While these studies showed that many individuals subjectively view religion as providing relief from stress and enhancing well-being, several other studies attempted to empirically validate this perception.

#### Links Between Religion and Mental Health:

##### *Beneficial Associations:*

##### *General Religiosity/Spirituality*

A vast body of literature shows that religious/spiritual beliefs and practices are linked to positive mental health outcomes for various clinical populations. For example, Levin and Chatters (1998) reviewed the literature on religion and mental health using various samples, designs, methodologies, measures of religiosity, health outcomes, and population characteristics. They concluded that studies overwhelmingly point to a positive relationship between religion and mental health.

A similar body of literature has examined mental health outcomes specifically for patients suffering from severe mental illness and revealed similar findings. For instance, Baetz, Larson, Marcoux, Bowen, and Griffin (2002) found a beneficial relationship between religious commitment and several mental health outcomes in a sample of 88 psychiatric inpatients in Canada suffering primarily from major depressive disorder. Their results indicated that greater worship attendance was related to lower depression,

greater life satisfaction, and decreased alcohol abuse for patients. Lower depression was also observed among those participants who reported that religious beliefs formed their whole approach to life. Those patients with more frequent worship attendance also had shorter lengths of hospital stay. These findings underscore the positive association between religious involvement and patient mental health. However, this research was limited by use of cross-sectional data, precluding the ability to make causal inferences.

One study that followed patients longitudinally was conducted by Huguelet, Binyet-Vogel, Gonzalez, Favre, and McQuillan (1997). These authors followed 67 patients with schizophrenia living in Geneva, Switzerland for five years. They compared psychosocial outcomes at five-year follow-ups for patients involved in regular religious activities with patients that were not. They found that religious patients had significantly higher Global Assessment of Functioning scores compared to non-religious patients, and there was a trend for religious patients to experience fewer relapses during the 5 years compared to non-religious patients. After accounting for the effects of gender, premorbid psychosocial adaptation, and substance abuse, however, these differences between religious and nonreligious patients disappeared.

Thus, Huguelet et al. (1997) were unable to conclude whether greater religiosity was causally related to better adaptation for these patients. This study was also limited by the use of a dichotomous measure of religiosity (i.e., taking part in regular religious activities versus not) that was taken at one time-point only. They did not assess for more intricate factors such as religious values or religious forms of coping. It is in light of these limitations that the current study aimed to elucidate the longitudinal role of religion

in mental health by examining how increases or decreases in religious beliefs and religious coping related to changes in psychosocial outcomes.

In addition to religion's association with beneficial mental health outcomes, a study by Yangarber-Hicks (2004) indicated that religion may also relate to better patient self-care. This study examined the association between religiosity and recovery-related activities among 178 patients with schizophrenia (30%), schizoaffective disorder (18%), bipolar disorder (15%), major depression (8%), substance abuse disorder (7%), personality disorder (11%), or other condition (12%) living in Hamilton County, Ohio. Results indicated that greater religious service attendance and importance of religion were related to greater involvement in activities that promoted recovery, which in turn was related to greater sense of empowerment, greater quality of life, and decreased symptom severity. These findings suggest that severely ill patients who are more religious tend to take better care of themselves and exhibit enhanced well-being.

Beyond predicting health-promoting behaviors, religiosity may also be related specifically to treatment-seeking and receipt among patients. A study by Moss, Fleck, and Strakowski (2006) examined the association between degree of religiosity and duration of untreated psychosis (DUP) among a sample of 195 inpatients living in Cincinnati who had at least one symptom of psychosis. These authors cited work by Sheitman and Lieberman (1998) indicating that extended DUP predicted lower levels of recovery, longer time to remission, and increased risk of relapse compared to shorter DUP. Thus, Moss et al. (2006) retrospectively examined how religiosity had predicted delays in seeking and receipt of treatment among patients recently admitted to the hospital. Their results revealed that greater religious involvement predicted shorter time



to first treatment and shorter time to first hospitalization. Thus, for patients who are beginning to experience schizophrenia symptoms that merit professional attention, greater religiosity may predict quicker receipt of much-needed treatment.

In sum, results of the aforementioned studies suggest that spirituality may be positively associated with better mental health and well-being among patients with severe psychopathology. Similar associations have been found among the caregiving relatives of these individuals. Investigating the role of religion and spirituality in individuals' coping with mental illness in the family is important in light of research indicating that, over the past two decades, family members have been increasingly taking on the time-consuming responsibility of caring for mentally ill relatives. As Goldstein and Miklowitz (1995) report, the recent trend towards deinstitutionalization has resulted in greater numbers of schizophrenia patients who live with and are cared for by relatives. Thus, finding a link between religion and psychosocial adjustment for patients and caregivers would illuminate better ways of helping relatives coping with schizophrenia in the family—namely, by bolstering religion and spirituality in therapy.

Research shows that relatives are often in need of better ways to cope. While caring for an ill family member can sometimes feel meaningful and rewarding for caregivers, Brazil and colleagues (2005) posited that relatives often feel unprepared for the responsibilities and challenges that come with caring for an ill loved one. Caregiving can also have negative effects on family members' physical and mental health as well as on practical facets of life such as financial stability and employment opportunities. Thus, it is essential that caregiving relatives have reliable access to stable sources of support, comfort, and solace while caring for a mentally ill family member. The studies reviewed

below show that caregivers often obtain such solace through their spiritual beliefs and practices.

Several studies have found positive links between religiosity and various psychosocial outcomes for caregivers. In particular, studies have revealed that religion may relate to greater emotional well-being. For instance, Hebert, Dang, and Schulz (2007) conducted a multi-site (i.e., Birmingham, Boston, Memphis, Miami, Palo Alto, and Philadelphia) investigation into the role of religion among 225 caregiving relatives of patients with Alzheimer's disease. They found that greater frequency of religious service attendance, greater frequency of prayer or meditation, and greater subjective importance of religious faith/spirituality each related to less depression after accounting for the effects of age, caregiver stressors, physical health, and social integration. These authors also found that 70% of caregivers viewed their spirituality as extremely important, and over three-quarters prayed nearly everyday.

These findings illustrate that, among relatives caring for an ill loved one, religious involvement is a highly valued activity that may protect relatives against psychological distress. Thus, Hebert et al. (2007), based on these results and on their own review of the literature on religion and caregiver well-being, impelled clinicians working with caregivers of mentally ill relatives to be aware of the importance of faith in the lives of their clients, as religious practices may constitute important avenues by which caregivers find meaning and purpose in their difficult situations.

Another study that highlighted how emotional well-being may be related to spirituality was conducted by Karlin (2004). While the previous study by Hebert et al. (2007) highlighted the link between religion and depression, Karlin examined how

caregivers' feelings of burden were related to religiosity. Using a sample of 31 caregiving relatives of patients with Alzheimer's disease living in Colorado and Nebraska, this author found that religious activity (e.g., attending religious services, prayer, and reading religious scriptures) was negatively related to caregiver burden.

The studies reviewed thus far suggest that greater religiosity may relate to better outcomes for severely ill patients and their family members. However, measures of religiosity used in many of these studies assessed how often caregivers prayed, attended religious services, and how important they rated religion to be in their lives, without assessing specifically how caregivers applied their religious beliefs and practices in coping with a loved one's illness and the responsibilities of caregiving—a practice that Pargament and Brant (1998) term religious coping. This practice has received much attention and support in the literature on religious and mental illness, as illustrated by the studies reviewed below.

### *Religious Coping*

In their review of the literature on religion and coping, Pargament and Brant (1998) argued that psychosocial adjustment may be more strongly related to the specific ways that relatives call upon their faith in order to cope with mental illness rather than relatives' general religious beliefs and practices—which they term religious orientation. These authors argue that measures of religious coping, therefore, serve as better predictors of psychosocial outcome than measures of religious orientation. It is important to investigate and identify which specific dimensions of religiosity uniquely impact mental health, as this information could be useful in tailoring religiously-oriented treatment programs to better serve patients. This study used Pargament, Tarekshwar,

Ellison, and Wulff's (2001) conceptualization of religious coping as one specific facet of global religiosity.

According to Pargament and Brant (1998), one's religious orientation or religiosity is characterized by long-standing religious beliefs, regular service attendance, faith in God or a supreme being, and/or a commitment to live according to a set of religious norms. Meanwhile, religious coping can be seen as a particular facet of religiosity that encompasses specific, functionally-oriented expressions of faith that appear during times of stress. To illustrate, religious forms of coping can include seeking support from God and/or one's religious community; forming a partnership with God in working through difficult circumstances; attributing negative events to the will of God or to a loving God (i.e., benevolent religious reframing); and/or performing religious rituals in response to crises.

Thus, Pargament and Brant (1998) argued that, while information about an individual's religious orientation may offer general clues into how that individual will make sense of and deal with stressful circumstances in general, information about one's religious coping strategies in particular is more telling of the specific behavioral means by which that individual will use religion to obtain comfort, knowledge, and solutions in coping with negative life events.

In support of their claim that measures of religious coping are better predictors of psychosocial adjustment than measures of one's broader religious orientation, Pargament and Brant (1998) provided data indicating that, across studies, 34% of the observed relationships between general religious orientation and psychosocial adjustment to negative events were significantly positive, compared to 53% of those between religious

coping and adjustment. For example, the authors cite a study by Pargament et al. (1990) in which participants facing a variety of life crises completed measures of religious orientation and religious coping. These authors found that religious coping was a better predictor than religious orientation of the success with which participants coped with negative events and of overall participant mental health.

In a similar study, Pargament, Tarekshwar, Ellison, and Wulff (2001) examined the connections of religion and religious coping to mental health in a national survey of individuals associated with the Presbyterian church. Their sample included 1,260 clergy, 823 lay leaders, and 735 “rank-and-file” church members. Study results confirmed previous findings such that religious coping predicted indices of positive affect even after controlling for the effects of global religiosity across all participants.

Findings from several studies directly support the importance of religious coping for patients suffering from mental illness and their relatives. For instance, Rogers, Poey, Reger, Tepper, and Coleman (2002) examined the importance of religious coping among 379 individuals diagnosed with schizoaffective disorder (16%), paranoid schizophrenia (13%), bipolar disorder (13%), or other psychotic, mood, or anxiety disorder (58%) residing in Los Angeles. These authors defined religious coping as the specific use of religious practices (e.g., service attendance; prayer; reading scriptures; meeting with a spiritual leader) in coping with frustrations and difficulties in one’s life. Their results showed that over 81% of patients used religious activity to help themselves feel better, and 65% viewed such practices as helpful. They also indicated that having spent more years using religious coping, viewing religious coping as being more helpful, and having

spent a greater percentage of their time using religious coping were each associated with lower levels of frustration.

In addition to predicting patients' emotional well-being, research shows that the use of religious coping by patients with severe psychopathology may also relate to better course of illness. Tepper, Rogers, Coleman, and Malony (2001) interviewed 406 individuals suffering from schizophrenia (34%), schizoaffective disorder (17%), major depressive disorder (16%), bipolar disorder (11%), or other mental illness (23%) living in Los Angeles. They found that 61% of patients spent at least half of their total coping time involved in religious activities, of which the most common was prayer.

Results of this study also suggested that patients reporting greater perceived importance of religion in the face of worsening symptoms experienced fewer hospitalizations during the previous year compared to patients reporting less importance of religion when facing deteriorating mental health. Lastly, Tepper et al.'s (2001) results indicated that retrospective reports of number of years using religious coping and percentage of overall coping time devoted to religious activities were both associated with lower symptom severity and greater psychosocial functioning. Together with Rogers et al.'s (2002) findings, results of this cross-sectional study suggest that religious forms of coping may aid severely ill patients in more successfully managing their symptoms and achieving enhanced functioning. The current study aimed to expand on these findings by investigating how longitudinal increases in religiosity and religious coping related to enhancements in psychosocial outcomes for patients and their family members. This study also sought to understand how participants' levels of religiosity and

religious coping at treatment entry related to indices of mental health at treatment termination.

In addition to benefiting patients, research has shown that family members may also experience important psychosocial benefits associated with the use of religious coping. A study by Morano and King (2005) investigated the association of religious orientation and religious coping with caregiver well-being among 343 family caregivers of individuals with Alzheimer's disease. Their results showed that greater overall general religiosity/religious coping related to less depression and greater self-acceptance among caregivers.

One limitation of this study was that the researchers used a brief measure that combined items assessing both general religious orientation and religious coping and did not differentiate between these constructs in their findings. Nonetheless, their results indicated that a comprehensive package of religion—that is, one consisting of both global religious beliefs that guide behavior and specific religious coping strategies used during times of stress—related to positive outcomes for caregivers.

While Morano and King's (2005) study did not investigate the unique contributions of general religiosity and religious coping to variance in psychosocial outcomes for relatives, it highlighted the importance of attending to the general influence of religion as well as the specific ways in which religion may be used to ameliorate stress linked with caregiving. For this reason, the current study assessed the relative contributions of both general religious orientation and specific forms of religious coping to psychosocial adjustment in patients and families dealing with schizophrenia.

One study that did compare general religiosity with specific religious coping was conducted by Murray-Swank et al. (2006). These authors investigated the relationship between spirituality and various psychosocial variables among 83 relatives of patients with schizophrenia (44%), a major affective disorder (50%), or other diagnosis (6%) living in Maryland and drawn from a national mental illness support group. They found that personal religiosity (i.e., believing that God was a source of strength and comfort, receiving spiritual support in coping with the mental illness of a family member) was a stronger predictor than religious service attendance of family member adjustment (i.e., depression, self-care, self-esteem). These results suggest, in line with Pargament and Brant's (1998) assertion, that one's personalized expression of faith in coping with adversity is often a better predictor of adjustment than one's global religious practices and values.

The aforementioned studies demonstrated that religious coping may be associated with better well-being among patients and their loved ones. However, as Pargament and Brant (1998) postulate, religious coping is a multi-faceted activity that can take various forms—some positive and others negative. They used the term positive religious coping to refer to such activities as seeking spiritual support, partnering with God in working through stressful problems, or attributing negative circumstances to the will of a loving God; in contrast, negative religious coping includes becoming angry with or distant from God or one's congregation, reframing negative events as punishments from God, or praying for divine retribution against someone else. Thus, as was done in this study, the dichotomous nature of religious coping must be considered when interpreting findings of its relationship with adjustment.



Findings by Pearce, Singer, and Prigerson (2006) highlight the distinction between these opposite forms of religious coping. These researchers examined the relationships of positive and negative religious coping to a variety of psychosocial outcomes among 162 informal caregivers of cancer patients residing in Connecticut and Texas. Using a measure developed by Pargament and colleagues (1998) that specifically assesses positive (e.g., collaboration with God in problem-solving, benevolent religious appraisals of stress associated with caregiving) and negative (e.g., punishing God appraisals, questioning God's powers) forms of religious coping, the authors found that, after controlling for the effects of age, sex, education, and non-White status, those participants using more positive forms of religious coping experienced greater satisfaction from caregiving as well as greater burden compared to those who used fewer positive religious coping techniques. Meanwhile, caregivers exhibiting greater negative religious coping also reported greater burden, poorer quality of life, and greater likelihood of suffering a major depressive or anxiety disorder compared to those that exhibited less negative religious coping.

According to the authors, the finding of greater burden among those using more positive religious coping may be explained by the possibility that positive religious coping motivates caregivers to take on more difficult caregiving responsibilities out of a sense of duty. Thus, caregivers who used more positive forms of religious coping may also have had more demanding caregiving duties than those using negative forms of religious coping. Overall, these results indicate that certain forms of religious coping may be associated with helpful or harmful consequences, depending on the nature of the religious coping. For this reason, the current study examined how positive and negative

forms of religious coping individually related to indices of mental health among patients with schizophrenia and their relatives.

The helpfulness or harmfulness of religious coping may also depend on the exclusivity with which it is used. This point was demonstrated by Abernathy, Chang, Seidlitz, Evinger, and Duberstein (2002) in a study of religious coping among 156 spouses of lung cancer patients residing in Rochester, New York. Results of this study indicated a curvilinear relationship between religious coping and depression. More specifically, after accounting for the effects of perceived control, self-efficacy, and social support, results showed that family members who used moderate levels of religious coping experienced less depression than those using lower or higher levels of religious coping.

While these findings supplemented prior evidence indicating that users of positive religious coping may show better adjustment, the authors suggested that extremely high levels of religious coping may indicate a maladaptive overdependence on this form of coping. That is, individuals who rely exclusively on religious forms of coping may neglect important secular forms of coping, rendering these individuals more vulnerable to stress compared to individuals using moderate levels of religious coping in conjunction with other ways of dealing with stress. Another possibility is that depression leads to high levels of religious coping such that this form of coping is utilized by those who are most taxed in their caregiving situations. Nonetheless, these findings highlight the potential buffering effects of using reasonable amounts of religious coping in dealing with the illness of a loved one.

Beneficial correlates of positive religious coping have also been demonstrated specifically among relatives of schizophrenia patients. Fortune, Smith, and Garvey (2005) found, among 42 relatives of patients with schizophrenia living in Worcestershire, UK, that less use of religious coping, positive reframing, acceptance, and active coping and greater use of self-blame were associated with greater distress. Thus, family members of patients suffering from schizophrenia may benefit from tapping into their faith-based practices and beliefs in coping with the stresses associated with schizophrenia in a relative.

While several studies reviewed thus far have highlighted the beneficial correlates of religious coping for both patients and relatives at the individual level, research has also shown that religious coping among caregivers may have implications for the patient-caregiver relationship. In particular, research has shown that religious coping may predict better relationships between patients and their caregiving relatives, which in turn may be associated with reduced distress for both persons. Chang, Noonan, and Tennstedt (1998) found support for this view in a study of 127 disabled elders and their caregiving relatives living in Massachusetts. Their results showed that greater religious coping among caregivers was associated with better relationship quality between relatives and care recipients, which in turn was associated with less caregiver depression and role submersion (i.e., feeling captive within one's caregiver role, feeling a loss of self).

This result extended previous findings by indicating that improved relationship quality is one potential mediator through which religious coping relates to better psychosocial adjustment. More generally, this finding suggests that, in light of the day-

to-day struggles that may strain caregiver-patient relationships, religious forms of coping may serve to sustain and bolster those relationships.

Thus far, several studies have been reviewed which suggest beneficial correlates of religious coping for ill patients and the family members who care for them. However, some studies indicate that religion may not be associated with beneficial outcomes for some kinds of patients and under certain conditions.

*Detrimental Associations:*

Despite that several studies have indicated that religion is associated with beneficial outcomes for patients with schizophrenia and their relatives, some research has failed to find evidence for this assertion or found the opposite effect. For instance, Weisman, Rosales, Kymalainen, and Armesto (2005) examined the relationship between religiosity and general emotional distress (i.e., levels of depression and anxiety) among 47 patients with schizophrenia and 57 relatives of those patients residing in Boston, Los Angeles, and Miami. Their results showed no association between religiosity and general emotional distress for patients nor relatives.

While this study indicated that religion had no relationship with psychosocial outcome, some researchers have argued that religion may in fact be detrimental for the well-being of patients with severe psychopathology. For example, in his review of the literature on religion and psychosis, Wilson (1998) suggested that religion is contraindicated for many patients with schizophrenia because it may negatively influence their symptomatic presentation and also because religion requires a level of passion that patients largely lack. In particular, he suggested that, because blunted affect, emotional withdrawal, and loss of motivation are primary symptoms of schizophrenia, patients may

be largely incapable of actively engaging in religion. He also argued that, even when patients succeed in becoming religiously active, their religiosity may color the content of their delusions. For instance, patients may report being harassed and persecuted by God, Jesus, or the devil, or may mistake persons in the environment—or themselves—for one of these three figures. Often, they may even feel they have committed unpardonable sins for which they will or should be punished.

Wilson further posited that, while patients often withdraw from social forms of religiosity upon the onset of symptoms, their solitary scripture-reading increases in frequency, which may be dangerous. He reported having witnessed patients take Biblical injunctions against proscribed behaviors literally such as by “cutting off their hands” or “plucking out their eyes,” as suggested in Matthew 5:29, because they looked lustfully upon individuals of the opposite sex.

Such concerns over the potential negative effects of religion were echoed by Siddle, Haddock, Tarrier, and Faragher (2002). They argued that, while many non-psychotic individuals may have religious experiences that seem delusional in nature, psychotic individuals who exhibit religious delusions usually also exhibit other forms of delusions or hallucinations that are not religious in nature. To clarify, these authors defined religious delusional experiences as consisting of the following three characteristics: the patient’s description of the experience had the form of a delusion; symptoms of severe mental illness (e.g. delusions, hallucinations, thought disorders) were present in other areas of the patient’s life; and the lifestyle, behavior, and goals of the patients following the religious experience more closely resembled the natural progress of mental disorder than personally enriching life experiences. Using this definition, the

authors examined the prevalence of religious delusions among 193 schizophrenia inpatients and compared patients with religious delusions to those with other types of delusions.

Their results revealed that religious delusions were common to schizophrenia, as they were exhibited by 23% of patients. They also revealed that religious delusions, compared with non-religious delusions, were associated with worse outcomes for patients. Specifically, the amount of time that patients experienced mental health problems that required treatment was longer for patients with religious delusions (median = 97 months) than those without religious delusions (median = 72 months). Patients with religious delusions were also prescribed higher amounts of antipsychotic medication (chlorpromazine equivalent; median = 500 mg v. 200 mg, respectively).

Results further revealed that self-identifying as religious was associated with greater odds of experiencing religious delusions compared with self-identifying as non-religious (OR 2.29). In turn, those with religious delusions had greater conviction in their delusions and greater certainty in an external cause for their voices compared to those with other kinds of delusions. This finding suggests that more religious patients may exhibit more impaired reality-testing in the form of more firmly held delusions that are less amenable to intervention. Overall, these findings indicate that religiosity may increase the likelihood of experiencing religious delusions, which, in turn, are associated with longer duration of psychosis and greater patient conviction in their delusional beliefs. Thus, for more severely ill schizophrenia patients, religiosity may be a risk factor for poorer prognosis and outcome.

In addition to patients, family members' religiosity may also interact negatively with their experiences of coping with mental illness. In particular, research shows that relatives may at times use their religious beliefs or practices in maladaptive ways, such as by believing that their loved one's illness is a punishment by God. Pargament and Brant (1998) classified this kind of belief as a form of negative religious reframing. In their review, they cited research by Grevengeod (1985) indicating that individuals using more negative religious reframing endorsed higher levels of distress and negative affect.

While the harm of this kind of religious coping is self-evident, other forms of religious coping may contribute to greater difficulties in more subtle ways. Pargament and Brant (1998) posited that the way individuals relate to God in coping with adversity may predict different psychosocial outcomes. For instance, these authors stated that collaborative forms of religious coping (i.e., viewing oneself and God as sharing responsibility and working together in dealing with adversity) are often associated with better psychological adjustment to stress.

In contrast, adopting self-directing (i.e., assuming full responsibility for problem-solving without assistance from God) or deferring (i.e., placing complete responsibility for problem-solving on God) styles of religious coping may be associated with negative consequences such as feelings of less competence. Thus, patients and family members who either passively turn to God with their problems and wait for solutions to emerge and those who attempt to tackle their problems on their own without any help from God are at risk of impairing their adjustment to mental illness in a loved one.

In sum, research suggests that religious coping may be helpful or harmful depending on how it is used by patients and caregivers. Altogether, the studies reviewed

in this section suggest that religion may relate to negative consequences particularly among patients exhibiting more severe symptoms, as well as for patients and relatives who use religion in maladaptive ways. These findings are in contrast to results of aforementioned studies indicating that greater religious involvement relates to a host of positive outcome variables for patients and their family member. Despite these apparently discrepant findings, some important points of agreement exist and merit acknowledgement.

For instance, while Siddle et al. (2002) found that patients exhibiting religious delusions—who also tended to be more religious in general—had poorer mental health and greater conviction in their delusions compared to patients exhibiting non-religious delusions, they also observed that religiously deluded patients were more likely to hold external attributions for the cause of their psychotic symptoms. That is, more religious patients tended to blame themselves less for their symptoms compared to less religious patients.

Also, Siddle et al.'s (2002) indication that religiously deluded patients were more religious in general must be interpreted with caution. Because their analyses were cross-sectional, it is possible that enhanced religiosity was an effect of religious delusions rather than a contributory cause. That is, patients may have more intensely turned to religion when their symptoms were at their worst.

Such an explanation is in line with observations by Tepper et al. (2001), who posited that patients may turn to religious practices like prayer and meditation when they experience worsening symptoms and distress and have exhausted all other means of coping. He further argued that, over time, their religious practices may have positive



effects such as reduced symptom severity, which explain why several studies have found positive associations between religiosity and patient outcome. Rogers et al. (2002) similarly explained the mixed empirical findings by arguing that religious practices such as prayer, scripture-reading, and religious service attendance are often used by the patients who need them most, which may account for the occasional associations between greater use of specific religious practices and greater debilitation.

Taken together, there appears to be greater empirical support for the hypothesis that religiosity and religious coping will be favorably associated with mental health. However, the discrepant findings may suggest that the relationship between religion and mental health for schizophrenia patients and their loved ones may depend on the severity of the patient's symptoms. That is, overall, it appears that religion may relate to more beneficial outcomes for schizophrenia patients with mild to moderate symptoms yet more negative outcomes for patients with more severe symptoms. For instance, Siddle et al.'s (2002) study, which found a negative association, was based on a sample consisting of inpatients who had been newly admitted or readmitted to hospital psychiatric wards, suggesting that they were at their worst in terms of symptom severity. Therefore, in line with Tepper et al.'s (2001) and Rogers et al.'s (2002) suggestions, it is possible that greater religiosity was observed among those patients experiencing the greatest severity of symptoms because they were more likely to have run out of secular coping strategies and more apt to turn to religion to deal with their illness.

In contrast, many of the studies finding positive associations between religion and psychosocial outcome were based on samples of outpatients with less severe symptoms. For example, Huguelet et al. (2006), who found that religion was an important aspect of

coping for the majority of schizophrenia patients, used a sample consisting of outpatients receiving long-term, supportive psychotherapy. In sum, while future research needs to examine other possible explanations for variability in observed religion-outcome relationships, it appears that symptom severity may serve as a potential moderator of this association.

### *Ethnic Patterns in Religiosity and Religious Coping*

Another important limitation of many of the studies reviewed thus far is the lack of attention to the role that ethnicity may play in the associations between religion-and mental health outcomes. In particular, many of the aforementioned studies either used predominantly White samples (e.g., Huguelet et al., 2006; Pearce et al., 2006; Abernathy et al., 2002; Siddle et al., 2002; Chang et al., 1998; Fitchett et al., 1997) or did not report data on ethnicity at all (e.g., Fortune et al., 2005; Huguelet et al., 1997; Kroll & Sheehan, 1989). Given the growing number of ethnic minorities in the United States (U.S. Census, 2000) and the great variability among ethnic groups in their reliance on religion and spirituality as coping mechanisms, ethnicity is a factor worthy of attention.

Several studies have demonstrated that ethnic minority individuals, compared to non-Hispanic Whites, tend to evidence greater religiosity and more often turn to religion when coping with illness in a loved one; and this difference appears to relate to better outcomes for ethnic minority patients and relatives. In the previously reviewed study by Rogers et al. (2002) on religious coping among patients with persistent mental illness, results indicated that African-American patients were more likely to cope by reading scriptures compared to patients from other ethnic backgrounds (i.e., White, Hispanic, Asian/Pacific Islander, or Native American). Thus, religion may be viewed among

African-Americans and other minorities as a culturally sanctioned and important mechanism for coping with mental illness.

Such results are not surprising in light of other findings showing that African-Americans display greater overall religiosity relative to Whites, suggesting that greater religious coping may confer African-Americans with stronger internal resources that mediate their relatively lower levels of psychological distress (Haley et al., 2004). Roff et al. (2004) extended these findings with a study directly indicating that African-Americans' more favorable views about caregiving were partially mediated by this group's higher religiosity. Thus, there is empirical evidence that religiosity, in addition to explaining individual differences in adjustment, may account for some of the observed ethnic group differences in emotional adjustment to mental illness.

Study findings suggest that African Americans' greater engagement in religious behaviors and forms of coping may partly explain their greater resilience to psychosocial stressors compared to Whites. These studies also point to a potential mechanism underlying the positive link between religion and mental health: namely, positive reframing. That is, religiously engaged individuals may experience better mental health outcomes because their spiritual involvement promotes more adaptive, positive interpretations of their circumstances, which in turn may relate to better indices of mental health.

Research has demonstrated that Hispanics may experience similar benefits from religious involvement. Studies have shown that Hispanics, as well, tend to display greater religiosity than their White counterparts. Weisman and López (1996), in an analog study on 88 Mexican and 88 non-Hispanic White undergraduate students residing

in Guadalajara, Mexico and Los Angeles, respectively, found that Mexicans reported greater moral-religious family values than Whites. This finding suggests that religion may play a more important role in the lives of Hispanic families than those of Whites.

This finding has also been documented specifically among Hispanics coping with schizophrenia in the family. Weisman, Gomes, and López (2003), in a qualitative study with 24 primarily Spanish-speaking relatives of patients with schizophrenia living in Los Angeles, found that 40% of relatives made reference to God or religion in discussing their family member's illness. These authors noted that the vast majority of these references portrayed religion as serving a supportive function such that it helped them to better understand and deal with the illness. That is, it is possible that Hispanic families' relatively stronger reliance on faith in getting through adversity contributed to a more accepting and less blaming environment for patients with schizophrenia, which in turn may have positively influenced their symptom presentation.

This idea may explain recent findings by Weisman de Mamani (2007) indicating that Hispanic patients with schizophrenia exhibit significantly less severe symptoms compared to their White counterparts. These findings also suggest that religion may relate to better mental health through its effect on attributional style. Thus, similar to previous findings that religion contributed to more positive cognitive reframing for African Americans, religious involvement may have predicted better adjustment because it promoted attributions about the illness that are less blaming and more empathic and understanding.

Coon et al. (2004) obtained similar findings indicating that Hispanics' relatively greater religious involvement may predispose them to exhibit better psychosocial

outcomes when coping with mental illness. In a study on 420 Hispanic and White female relatives of Alzheimer's patients living in Miami and Palo Alto, these authors demonstrated that Hispanics, similar to African-Americans, showed more frequent prayer, greater religious service attendance, and greater importance of religion than Whites. Hispanics also exhibited more benign appraisals of their caregiving situations and of patient behavioral problems compared to Whites. These results led the authors to conclude that Hispanics' greater use of religious practices and beliefs may form an important part of their coping strategies, which in turn may offer them greater protection against the stresses associated with caregiving.

The findings of Coon et al. (2004) are in line with Weisman's (1997) assertion that the salience of religion for Hispanics may explain the more favorable clinical course of schizophrenia in unindustrialized countries. In a review of the research on sociocultural factors influencing schizophrenia, Weisman posited that Hispanic groups often ascribe to fatalistic religious beliefs which hold that such negative events as mental illness are intended and controlled by God or other supernatural forces. Such externalization of control over mental illness may imbue Hispanics with the conviction that such a misfortune can happen to anyone and that one must be understanding and compassionate towards those with such afflictions. It is not surprising, then, that studies have shown Hispanic relatives, with their greater religious involvement, exhibit more favorable appraisals about caregiving and greater well-being compared to Whites.

Such a phenomenon is also consistent with qualitative findings on the role of religion among Hispanic caregivers. Guarnaccia, Parra, Deschamps, Milstein, and Argiles (1992) conducted in-depth interviews with 45 Hispanic (primarily Cuban and

Puerto Rican) family caregivers of individuals with schizophrenia or bipolar disorder living in New Jersey. Consistent with prior observations, these authors noted that religious involvement was a key component of life for Hispanics. Specifically, 72% of Hispanic relatives attended church once or more times per week. For many families, religion provided support in helping the ill relative resume a normal and satisfying life. Moreover, Hispanics were more likely than African-American and European-American families to turn to spiritual leaders for help in dealing with a relative's hospitalization or to discuss their concerns about their loved ones.

Guarnaccia and colleagues (1992) also found that family members' conceptions of the sources of mental illness often involved religious/spiritual factors. Religion helped relatives to make sense of their loved one's illness and gave them hope that the ill relative may eventually resume participation in day-to-day family and community activities. In particular, these authors noted that the refrain "Si Dios quiere" ("If God wishes") captured Hispanics' optimism about the course of the illness and the future of their loved one. This finding is similar to Weisman (1997) reporting that Hispanic relatives tended to externalize control over the illness by believing that patients will get better and resume normal function if God so wishes. These qualitative findings may provide further explanation for why Coon et al. (2004) found Hispanic relatives to have more positive views of their situations than Whites. By seeing God as having power over their loved one's mental illness, Hispanic relatives may hold the patient and themselves less responsible for controlling the illness, thus contributing to their reduced distress and better outlooks about their circumstances.

While several studies have examined Hispanics and African-Americans separately, a few have investigated these groups simultaneously as they compare with Whites on religiosity and religious coping. One study by Morano and King (2005) examined the importance of religion to 343 African-American, Hispanic, and non-Hispanic White caregivers of individuals with Alzheimer's disease. The results they obtained revealed that African-Americans showed the greatest level of religiosity (i.e., religious service attendance, perceived role of religion/spirituality as a source of comfort in caregiving), followed by Hispanics and Whites, respectively. Thus, these results were consistent with previous findings suggesting that religion plays a larger role in the lives of ethnic minority relatives compared to non-minority relatives.

Similar findings have been reported specifically among relatives of schizophrenia patients. Stueve, Vine, and Struening (1997), in a study on 180 caregiving relatives of individuals with schizophrenia or major affective disorder living in New York, found that African-Americans and Hispanics viewed religion as more important than Whites. Their results, similar to those by Haley et al. (2004), also showed that African-American relatives experienced less burden than White relatives. The reduced burden among African-Americans was partially explained by their greater religious involvement, more benign illness attributions, and greater social support. Thus, African-Americans' better adjustment to mental illness in a loved one appears to strongly relate to their firm religious beliefs and practices.

The aforementioned studies on religion and ethnicity indicate that African-American or Hispanic ethnic minority status may be associated with greater religious involvement, which in turn may predict a better course of illness for patients and better

adjustment and well-being for their caregiving relatives. Altogether, the preponderance of the literature indicates that greater religious involvement may serve as a protective factor, at least among mild to moderately ill patients suffering from serious mental illness and the family members who care for them.

The results of these studies also suggest that the positive effect of religion may operate through its promotion of more positive cognitive interpretations and less blaming attributional styles among individuals dealing with serious illnesses. Some researchers have empirically investigated other potential mechanisms underlying this effect. Mohr, Brandt, Borrás, Gilliéron, and Huguelet (2006) conducted a study aimed at investigating the role of religion in coping with serious mental illness among 115 outpatients presenting with psychotic illness. Their results illuminated potential mechanisms by which religiosity may facilitate patients' coping with mental illness.

In particular, religion contributed to reductions in anxiety, depression, and negative symptoms for patients, as evidenced by the following excerpt from an individual patient: "I have no motivation to do anything, so I pray; I offer my suffering to Jesus. This gives me strength and comfort to do things." Results also showed that religion positively impacted patients' social abilities and interpersonal skills, which have often been related to patients' delusions, hallucinations, and negative symptoms. To illustrate, one patient said, "It is difficult for me to communicate with people. I read the Bible and I meditate about peace, love, and forgiveness, and it helps me in my day-to-day relationships with others." Thus, these authors showed that religion promotes better coping and adjustment through various means.



Despite the large amount of evidence pointing to the subjective importance of religion to patients and its beneficial associations with psychosocial adjustment, a review of the literature reveals mental health professionals often fail to address this important topic with their clients—even when clients have expressly wished to discuss religion. The studies reviewed below demonstrate that spirituality and religious coping are often ignored in the course of therapy with mentally ill patients and their relatives.

#### Religion and Psychotherapy:

As evidenced by the aforementioned studies, findings are somewhat mixed with regard to the effects of religion on mental health for patients with schizophrenia. On the one hand, some studies suggest that greater religiosity is related to better mental health and psychosocial outcomes. On the other hand, some studies suggest that, especially for more severely disturbed patients, greater religiosity predicts greater severity of symptoms, particularly delusions.

Because schizophrenia is a life-long illness characterized by fluctuations in severity, clinicians treating such patients have the daunting task of deciding whether or not their patients would benefit from incorporating religion into their treatment plans. Little research exists to inform these decisions, and the available research on religion and therapy shows that clinicians generally elect not to discuss religion with their patients, despite clear evidence that this construct is important to them.

One study by Propst, Ostrom, Watkins, Dean, and Mashburn (1992) examined the comparative efficacy of religious and nonreligious versions of cognitive-behavioral therapy among 59 religious individuals coping with depression. These researchers developed parallel manuals for religious and nonreligious cognitive therapy protocols that

included 18 weekly 50-minute sessions. Contrary to standard CBT, the religious form of CBT included religious rationales for exercises and interventions, used religious lines of reasoning to counter maladaptive cognitions, and used religious imagery procedures.

Propst et al. (1992) found that individuals receiving a religious form of cognitive therapy experienced greater reductions in depression and improvements in social adjustment and general symptomatology compared to individuals in the standard cognitive therapy. Results also showed that individuals receiving pastoral counseling—a control condition which included mainly nondirective listening with some discussion of scriptures or religious themes—experienced greater improvements in depression than those receiving standard CBT. These findings lend preliminary support to the notion that therapy which is adapted to the beliefs and practices of individuals may be more efficacious than standard therapy, which largely lacks attention to religious values or concerns.

While Propst et al.'s (1992) study demonstrated the efficacy of religiously-oriented treatment for religious individuals suffering from depression, scant research to date has investigated the role of religion in therapy for individuals coping with schizophrenia. This gap flies in the face of evidence that many patients with severe mental illness report a desire for their therapist to address religion in treatment. The current study aims to fill this gap by investigating how changes in religion impact therapeutic outcome for patients with schizophrenia and their families,

One study by D'Souza (2002) highlights how the vast majority of psychiatric patients view religion as relevant for treatment. D'Souza surveyed 79 psychiatric hospital inpatients and outpatients on their spiritual attitudes and needs. His results

indicated that 79% of patients viewed spirituality as important in general. Furthermore, 82% of patients viewed it as important for therapists to be aware of patients' spiritual needs, and 69% believed therapists should take into consideration such spiritual needs in planning treatment.

While D'Souza's (2002) study documented the high rates of patients who deem religion an important element of treatment, Huguelet, Mohr, Borrás, Gillieron, and Brandt's (2006) study directly compared the importance of religion for schizophrenia patients ( $n = 100$ ) and clinicians ( $n = 34$ ). Their results indicated that, with regard to general levels of religiosity, patients were more involved and clinicians less involved than the general population in religious activities. They also indicated that clinicians tended to underestimate the importance of religion to their clients. Specifically, clinicians reported discussing religion with their patients in only 36% of cases, despite that they claimed feeling at ease to do so in 93% of cases. Over half of the clinicians reported that they lacked skills in this domain. This low rate of clinical attention to religion contrasts with the attitudes of patients, of whom only 10% believed that religion is incompatible with therapy.

Huguelet et al.'s (2006) findings indicate that this discrepancy between the importance of religious issues to patients and its actual incorporation into treatment may be related to both patient and clinician factors. More specifically, results showed clinicians who were more religiously involved were, on the one hand, more sensitive to their patients' religious coping, but on the other hand, they were also much less at ease openly discussing religious issues with patients. That is, religious clinicians understood clients' religious concerns but still did not feel comfortable talking about religion in

therapy. Results also indicated that patients whose psychotic symptoms had religious overtones felt less at ease talking about religion with their clinicians compared to other patients. These patients reported fearing that they would be misunderstood as religiously deluded and hospitalized against their will. Altogether, these findings suggest that, paradoxically, as religious issues are increasingly relevant to both patients and clinicians, the likelihood increases that such issues will go unaddressed in treatment.

Such ambivalence over the role of religion in therapy for severely ill patients and their relatives may be ameliorated by findings from studies directly investigating the unique effect of religion on mental health for schizophrenia patients. One line of inquiry of particular relevance is whether strengthening and reinforcing patients' and family members' religious values and practices during therapy predicts improvements. This study will undertake this investigation by examining whether increases in general religiosity and use of religious coping relate to improved mental health. Specifically, we will assess whether increases in general religiosity and use of religious coping result in reduced symptom severity, decreased perceived burden, lower general emotional distress, and improved quality of life among schizophrenia patients and their relatives participating in a family-focused treatment for schizophrenia. This study will further address the importance of religion to patients and families by examining whether religiosity mediates the relationship between ethnic minority status and lower levels of burden and emotional distress for both patients and relatives, and lesser symptom severity for patients. Furthermore, we will also explore the possibility that ethnicity moderates the relationship between religion and functional outcomes. Given that religiosity appears to be more culturally sanctioned among minorities than Whites, it is possible that it will

serve as a more effective coping mechanism for dealing with schizophrenia in minority, compared to White populations.

Summary:

This review of the literature on religion and mental health reveals several important findings. First, studies have demonstrated that individuals suffering from psychopathology show similar levels of religious involvement and spiritual needs as non-psychiatric individuals. In addition, while there are some important exceptions, the majority of evidence appears to indicate that greater religious involvement relates to better psychosocial outcomes for both patients with severe psychopathology and their loved ones. In particular, research has suggested that one's personalized application of religion towards coping with mental illness predicts well-being and adjustment better than do one's general religious beliefs and activities. The beneficial correlates of religious coping have also been shown to have cultural relevance. Studies have indicated that ethnic differences in emotional adjustment among patients and caregivers appear to be partially mediated by ethnic differences in the salience of religion for coping with adversity. Lastly, research has pointed to positive reframing, non-blaming attributional styles, decreased depression and anxiety, and improved social functioning as potential mechanisms underlying the link between religion and better mental health.

Altogether, the research reviewed thus far indicates that, when used adaptively by individuals who do not exhibit severe psychosis, religious coping may confer relatives and patients with important stress-buffering benefits. As previous studies have yet to rigorously examine the longitudinal influence of religion on psychopathology and adjustment, the current study will address this limitation by examining how changes in

patients' and relatives' levels of religiosity and religious coping (with and without controlling for baseline levels) relate to improvements or declines in several key indicators of well-being and adjustment. Because the current study will be based on a sample of relatively high-functioning patients (seriously psychotic patients, as assessed by the Brief Psychiatric Rating Scale, are excluded from participation until stabilized), it is hypothesized that this study will find a beneficial association between increases in religion and increases in mental health outcomes.

Participants for this study were enrolled in a treatment outcome study evaluating the effectiveness of a family-focused, culturally-informed therapy for schizophrenia (CIT-S) against a briefer Treatment-As-Usual (TAU) control group. CIT-S is a 15-week family therapy consisting of five segments which last three sessions each. One such segment focuses on identifying and strengthening clients' uses of religious and spiritual means of coping with mental illness. In contrast, TAU comprises a three-week family-focused intervention providing exclusively psychoeducation about schizophrenia. Thus, it is expected that some participants, particularly those assigned to the CIT-S condition, will experience increases in their religious and spiritual practices between treatment-entry and treatment-termination. (CIT-S and TAU will be further described in the methods section.)

#### Hypotheses:

This study tested the following specific hypotheses:

- 1) Based on the preponderance of literature indicating a favorable association between religion and mental health for mentally ill patients who are not in the midst of a severely psychotic episode, it was expected that similar associations

would be found in this study's sample, which screened out for more severe forms of schizophrenia. Thus, the following specific hypotheses were tested:

- a. Baseline measures (that is, those taken prior to participants' beginning family-focused treatment) of participants' religious involvement would relate negatively to baseline measures of schizophrenia symptom severity (patients only), burden, and emotional distress and positively to baseline measures of quality of life.
  - b. Higher baseline scores on measures of religious involvement would predict decreases (from baseline to termination) in schizophrenia symptom severity (patients only), burden, and emotional distress and increases in quality of life. This hypothesis was tested with and without controlling for baseline scores. In other words, this study also tested the hypothesis that increases in scores on measures of religious involvement (i.e., increases from treatment-entry to treatment-termination) would relate to decreases (over the same time period) in schizophrenia symptom severity (patients only), burden, and emotional distress and increases in quality of life. Because participants in this study consisted of a mixture of individuals receiving a 15-week therapy that includes religious elements and those receiving only a three-week psychoeducation-focused therapy, analyses involving termination data controlled for the effects of treatment group.
- 2) Based on research by Pargament and Brant (1998) as well as Pearce, Singer, and Prigerson (2006), it was hypothesized that greater positive religious coping would relate to better mental health outcomes, while greater negative religious coping

would relate to poorer mental health outcomes. In line with the previous analysis, this set of analyses also examined change score data. Thus, it was also hypothesized that increases in positive religious coping would relate to improvements over time in mental health measures, whereas increases in negative religious coping would relate to decreases over time in indices of mental health.

- 3) Based on findings by Pargament and Brant (1998), it was hypothesized that, at baseline, participants' levels of religious coping would be more strongly related to outcome measures than participants' general religiosity. Similarly, increases in levels of religious coping were expected to be associated with increases in general emotional distress more strongly than increases in general religiosity.
- 4) Based on research indicating that ethnic minorities exhibit lower levels of burden, emotional distress, and psychiatric symptoms and higher levels of religiosity and religious coping compared to Whites, this study tested the hypothesis that greater religious involvement would mediate the previously observed relationship between ethnic minority status and better mental health outcomes. Specifically, it was anticipated that Hispanic participants would evidence lower levels of emotional distress, perceived burden, and symptom severity (for patients) and higher levels of quality of life compared to Whites. It was also expected that they would report higher levels of religious involvement. Because religiosity has generally demonstrated beneficial associations with mental health, as outlined above, the relationships between ethnicity and mental health outcome measures were hypothesized to be mediated by religious involvement.



- 5) On an exploratory basis, this study also examined whether ethnicity would moderate the relationship between religion and mental health. As noted in the review, religion appears to be more strongly valued and more frequently utilized among Hispanics and other ethnic minorities than it is by Whites. Because religion tends to be more culturally sanctioned among Hispanics, it is possible that the benefits of religion are greater among Hispanics than they are among Whites.

## Chapter 2: Method

### *Design and Procedure*

This study was part of a larger study evaluating the effectiveness of a 15-week, family-focused, culturally-informed therapy for schizophrenia (CIT-S) compared to a treatment-as-usual (TAU) control condition. This larger study recruits participants from Miami and neighboring cities. The 15 weeks of the CIT-S family therapy are divided into the following five segments, each lasting three weeks: family cohesion, psychoeducation about schizophrenia, religious/spiritual coping, communication training, and problem-solving strategies. The family cohesion segment of CIT-S is aimed at fortifying a strong sense of unity and cohesion among family members. This segment is followed by a psychoeducational segment focused on reviewing the positive and negative symptoms of schizophrenia and ways that family members can help the patient. The third segment, religious/spiritual coping, emphasizes ways that participants' religious, spiritual, and/or existential/philosophical beliefs influence their conceptualization of the patient's illness and their coping with related stresses. The fourth segment focuses on learning and practicing communication techniques that help family members listen and communicate with one another more effectively. The last segment of CIT-S, problem-solving, emphasizes the acquisition and implementation of problem-solving skills to help patients and family members tackle and resolve problems more successfully.

The alternative treatment condition, TAU, consists of three sessions of psychoeducation about schizophrenia, which is identical to the second segment of CIT-S. Participants are randomly assigned to receive the 15-week culturally-informed therapy (CIT-S) or the three-week psychoeducation intervention (the treatment-as-usual, or TAU).

Participants are largely recruited through radio advertisements, classified advertisements in local community magazines, public transportation advertisements (particularly on Miami's above-ground rail system), and community outreach activities (e.g., lectures at local mental illness groups, state hospitals, etc.). Eligible patients and their families are contacted by graduate students involved in the treatment study and informed of the study details. Those who express interest in enrolling in the treatment study are invited to participate in a baseline assessment in which patients complete a diagnosis-confirmation interview using the Structured Clinical Interview for the DSM-IV, patient edition (SCID-I/P, First, Spitzer, Gibbon, & Williams, 2002). Also at this baseline assessment, patients and families are interviewed about a series of psychosocial factors.

Due to concerns about variations in reading ability, all measures are administered in interview format. Interviewers are given standard instructions on how to introduce each scale. When participants appear to have difficulty grasping a scale or scale item, interviewers are coached to provide further explanations and examples. However, interviewers are instructed never to steer participants towards any particular response.

Upon completing the 15-week therapy, patients and family members participate in a termination assessment that consists of the same measures completed during the baseline assessment, and they are invited twice more to complete identical assessments at six and twelve months after treatment termination. TAU participants are interviewed on the same timeline. That is, they complete a baseline assessment prior to study entry; a termination assessment at approximately 13-14 weeks after their final therapy session; and they are assessed again at six and twelve months after treatment termination. The

current study will focus on data collected prior to treatment entry (i.e., baseline) and at the first post therapy assessment (i.e., termination).

Following a procedure developed and previously described by Weisman, Rosales, Kymalainen, and Armesto (2005), several trained interviewers conducted the assessments, and the majority were fully Spanish-speaking. Hispanic participants were given a choice of completing the assessments in either English or Spanish. All measures had been translated into Spanish using an editorial board approach, which is considered a more effective alternative to translation-back-translation and accounts for the fact that there are often within-group language variations (Geisinger, 1994). All measures were first translated into Spanish by a native Spanish speaker, after which an editorial board carefully and privately reviewed the Spanish translations and compared them against the English versions. The editorial board consisted of native Spanish speakers of Cuban, Puerto Rican, Nicaraguan, Colombian, Mexican, and Costa Rican descent, and a non-native Spanish speaker with extended work and personal experience in Spanish speaking countries (e.g., Cuba, Spain, Mexico) and cities in the U.S. where Spanish is widely spoken (Los Angeles, New York, Miami).

Once the board members independently reviewed the translations, a group meeting consisting of the editorial board and original translator was held to discuss discrepancies and reconcile all differences and concerns with the translation. At the end of the meeting, final versions of all translations were agreed upon so as to have the most generic Spanish versions of all measures. That is, board members unanimously agreed that Spanish versions of all measures used language that was clear and understandable and tapped the intended constructs for members of all Spanish-speaking ethnic groups.

### *Participants*

Participants for this study consisted of White and Hispanic patients diagnosed with schizophrenia or schizoaffective disorder ( $N = 41$ ) and their relatives ( $N = 57$ ), all of whom participated in the larger study evaluating the effectiveness of a family-focused, culturally-informed therapy for schizophrenia (CIT-S) in comparison with a treatment-as-usual protocol (TAU). For family members, demographic characteristics were distributed as follows: 15 males and 42 females; 22 Whites and 35 Hispanics; mean age was 55.19 ( $SD = 14.61$ ); and modal level of education was “high school degree” ( $n = 23$ ). For patients, demographic characteristics were distributed as follows: 33 males and 8 females; 14 Whites and 27 Hispanics; mean age was 35.76 ( $SD = 13.61$ ); and modal level of education was “some college” ( $n = 20$ ).

For analyses that involved data collected at treatment termination as well as changes from baseline to termination, data was used only from those participants who completed CIT-S or TAU and the associated termination assessments. In order to ensure the independence of study participants, the member of each family with the greatest amount of interaction with the patient was selected for inclusion in the family member sample. Termination data was available for 22 family members and 18 patients.

### *Measures*

#### *Schizophrenia Diagnosis Confirmation*

The Psychotic Symptoms section of the *Structured Clinical Interview for the DSM-IV (SCID), Version 2.0, Patient Edition* was administered only to identified patients and was used to determine whether patients met criteria for schizophrenia or schizoaffective disorder. This instrument consists of a semi-structured interview that

asks participants about the presence, onset, and duration of a host of schizophrenia symptoms. The SCID is widely used and has demonstrated high inter-rater reliability in assessing individual symptoms and overall diagnosis (Ventura, Liberman, & Green, 1998). To assess inter-rater reliability in the current study, all interviewers as well as the study Principle Investigator watched six videotaped interviews and independently rated each question and determined an overall diagnosis. Interrater agreement using Cohen's Kappa was 1.0, suggesting that interviewers were in complete consensus regarding schizophrenia diagnoses.

#### *Schizophrenia Symptom Severity*

This variable was assessed only in patients (who met criteria for schizophrenia as assessed by the SCID) using the Brief Psychiatric Rating Scale (BPRS). The BPRS is a 24-item semi-structured interview that assesses the following eight primary areas: unusual thought content, hallucinations, conceptual disorganization, depression, suicidality, self-neglect, bizarre behavior, and hostility. A total BPRS score was obtained by summing patients' scores across all items. In previous schizophrenia research, Subotnik and Nuechterlein (1988) demonstrated good reliability (intraclass coefficient scores ranged from .77 to .93 across scales with a mean of .85). For the larger study on which the current study is based, all interviewers were trained extensively in BPRS coding by the principal investigator of the larger study, Dr. Amy Weisman de Mamani.

To establish reliability, study interviewers rated videotaped interviews conducted by Dr. Joseph Ventura of UCLA, and the agreement was calculated between these ratings and Dr. Ventura's consensus ratings. Intraclass correlation coefficients between the study interviewers and Dr. Ventura ranged from .85 to .98 for total scores.

In general, and in line with prior studies utilizing this scale (e.g., Ventura, Green, Shaner, & Liberman, 1993; Schutzwohl et al., 2003), coefficients were higher for interview ratings based on patients' verbal responses ( $M = .91$ ,  $SD = .06$ ) and lower for items based on interviewer observations of patient behavior ( $M = .65$ ,  $SD = .28$ ). Restriction of range in the observation-only scores appeared to contribute to lower coefficients, as there was less variability for these items.

### *General Religiosity*

In its analyses of the relative effects of general religiosity compared to religious coping on mental health, this study used two measures for general religiosity: one to assess general religiosity at the individual level, and another to assess general religiosity at the family level. (The latter measure is discussed further below.)

**Individual Religiosity.** To assess participants' individual religious orientations, including their religious values and beliefs, this study used the *Religious Orientation Scale-Revised* (Gorsuch & McPherson, 1989). This is a 14-item scale which assesses both intrinsic and extrinsic religious orientation. Sample items include "I enjoy reading about my religion," "It is important to spend time in private thought and prayer," and "I try hard to live my all my life according to my religious beliefs." Items were rated using a 5-point (1 = strongly disagree to 5 = strongly agree), Likert-type rating scale, and scores were summed such that higher scores indicated greater individual religiosity. The developers of this measure reported a reliability coefficient of .86 for the intrinsic subscale and .65 for the extrinsic subscale. In this study, only the total scores were used; Cronbach's alphas for this study were .87 for patients and .72 for family members.

Family Religiosity. To assess family religiosity, this study used the Moral-Religious Emphasis subscale of the *Family Environment Scale* (FES; Moos and Moos, 1981). The FES consists of 20 true/false statements, of which 11 comprise the Moral-Religious Emphasis subscale. This subscale assesses participants' perceptions of their families' religious values, beliefs, and practices. Sample items include "We don't say prayers in our family," "We believe there are some things you just have to take on faith," and "Family members attend church, synagogue, or Sunday school fairly often." Scores were coded such that true or false statements endorsing greater religiosity were coded as 1, while true or false statements indicating lower religiosity were coded as 0. Higher scores for the sum of the eleven items indicated greater moral religious emphasis in the family. Moos and Moos (1981) reported the Cronbach's alpha internal reliability coefficient to be .78 for this subscale. Cronbach's alphas in this study were .79 for patients and .74 for family members.

#### *Religious Coping*

Religious coping was measured using the *Religious Coping Activities Scale* (Pargament et al., 1990). This scale consists of 29 Likert-type prompts assessing the degree to which participants use various forms of religious coping when faced with stressful events. Items were scored on a 1 (not at all) to 4 (a great deal) basis, and scores were summed across items with higher scores indicating greater use of religious coping. Cronbach's alpha for the total scale in the current study was .96 for patients and .94 for family members.

This scale was also broken down into subscales measuring positive (e.g., "Used my faith to help me cope with the situation," "Received support from the clergy") and



negative (e.g., “Felt angry with or distant from God,” “Questioned my religious beliefs and faith”) forms of religious coping. The Positive Religious Coping Subscale comprises 26 items and showed reliability in this study of .95 for family members and .97 for patients. The Negative Religious Coping Subscale comprises 3 items and showed reliability of .38 for family members and .83 for patients.

#### *General Emotional Distress*

General emotional distress was measured using the *Depression and Anxiety Stress Scale* (Lovibond and Lovibond, 1995), which consists of 42 Likert-type questions assessing the degree to which participants experience symptoms of depression and anxiety. The DASS yields three factors: depression, anxiety, and stress. This measure has demonstrated excellent reliability in prior schizophrenia research (Weisman et al., 2005). Scores were summed across items with higher scores indicating greater distress. Cronbach’s alphas for the current study were .98 for patients and .98 for family members.

#### *Burden*

Family member and patient burden were assessed using the Modified Burden Assessment Scale (Reinhard, Gubman, Horwitz, and Minsky, 1994). This is a 19-item measure that has been designed specifically to assess both objective and subjective burden associated with caring for a mentally ill relative. Participants asked to indicate on a 4-point Likert-type scale (from “not at all” to “a lot”) the extent to which they have experienced burden in each of 19 areas covered. Sample items include “Had financial problems,” “Found the household routine was upset,” and “Experienced family frictions and arguments.” Scores were summed across items with higher scores indicating greater burden. Cronbach’s alphas were .88 for patients and .90 for family members in this study.

### *Quality of Life*

Patients' and family members' quality of life was assessed using the *Quality of Life Inventory*. This 32-item instrument asks participants to rate several life domains according to (a) how important that area of life is to one's happiness (0 = "not important," 1 = "important," or 2 = "extremely important") and (b) how satisfied one feels in that area of life (from 0 = "very dissatisfied" to 5 = "very satisfied"). Higher scores on this scale denoted greater quality of life. The areas of life about which participants were queried were as follows: health, self-esteem, goals and values, money, work, play, learning, creativity, helping, love, and friends. The scale's developers reported a Cronbach's alpha coefficient of .86, demonstrating good reliability (Frisch, Cornwell, Villanueva, & Retzlaff, 1991). For this study, Cronbach's alphas were .89 for patients and .85 for family members.

## Chapter 3: Results

*All analyses were carried out separately for family members and for patients.*

### *Confounds*

The potential relationships of gender, age, and education to all primary study variables were examined prior to conducting analyses. Education was the only variable that demonstrated significant associations with primary variables; these associations are summarized in Table 3.1. Specifically, results indicated that, for family members, less education was correlated with greater emotional distress as well as with greater individual religiosity and greater use of religious coping. For patients, less education was correlated with greater general emotional distress. Because education in this study had moderately strong associations with at least one primary variable for each group (i.e., family members and patients), and because the literature suggests education is strongly associated with a host of other psychosocial variables, it was controlled for in all subsequent analyses.

All analyses involving termination data also controlled for the effect of treatment group (i.e., CIT-S versus TAU). This decision was made because participants receiving the 15-week CIT-S family therapy, which included a religious intervention, were expected to experience greater increases in religiosity compared to those participants receiving a shorter, more secular intervention (TAU). It is important to point out, however, that this study was only concerned with assessing changes that occurred in religiosity and how these related to mental health outcomes, both concurrently and over time—regardless of the causes of such changes.

### *Power and Trends*

All non-significant correlations of .20 or higher, with  $p$  values between .05 and .10, will be referred to in this paper as non-significant “trends,” and their tentative implications will be explored in the Discussion section. This decision was made because, based on the relatively small sample sizes for this study (N for patients = 41; N for family members = 57), there was a high probability that some real effects would go undetected. For example, estimations using G\*Power 3 software revealed that, for baseline analyses with this study’s sample of 57 family members, power was only 31% for detecting significant correlations of .20 using two-sided alphas of .05. In other words, even when conducting cross-sectional analyses with the largest subsample of this study (i.e., 57 relatives at baseline), small-to-medium correlations would have gone undetected 69% of the time. Consequently, this study had a relatively high risk for type II errors that should be considered when interpreting several of the non-significant results presented below. The choice to use  $r = .20$ ,  $.05 < p < .10$  as a threshold for describing trends was informed by Cohen’s criteria for small ( $r = .10$  to .29), medium ( $r = .30$  to .49), and large ( $r = .50$  or higher) Pearson  $r$  effect sizes and on prior work supporting the use of these criteria (Rutledge & Loh, 2004; Hemphill, 2003). Thus, trends that were at least at the midpoint between “small” and “medium” effect sizes, and whose  $p$  values were near-significant (i.e., between .05 and .10), were tentatively discussed in this study.

### *Analyses of Religion and Outcomes*

A series of Pearson partial correlations (controlling for education and, for correlations involving termination data, treatment group) were used to test the first set of hypotheses: namely, that individual religiosity, family religiosity, and use of religious

coping each would relate negatively to patient schizophrenia symptom severity, subjective burden, and general emotional distress and positively to quality of life. These relationships were evaluated using participants' baseline scores, termination scores, and change scores (which were calculated by subtracting scores at baseline from scores at termination) on all measures. Results of these analyses are summarized in Tables 3.2 (Family Members) and 3.3 (Patients).

For family members, analyses showed that greater religious coping and greater family religiosity were each significantly related to greater quality of life at baseline. Analyses of independent variables at baseline and dependent variables at termination (controlling for education and treatment group) failed to yield findings for both groups. Analyses of family members' change scores showed that, as hypothesized, increases from treatment-entry to treatment-termination in religious coping were significantly and very strongly related to decreases in general emotional distress, after controlling for the effects of education and treatment group. All other analyses examining this first hypothesis yielded null results for family members.

For patients, analyses yielded an unexpected association between greater religious coping and greater burden at baseline. However, longitudinal data showed that greater religious coping at treatment-entry predicted decreases over time in subjective burden, after controlling for education and treatment group. Results showed, also unexpectedly, that increases in family religiosity over time were related to increases in emotional distress for patients.

Because at least one study has suggested the potential of a curvilinear relationship between religious coping and functioning (Abernathy, Chang, Seidlitz, Evinger, and

Duberstein; 2002), scatter diagrams for all significant relationships were examined to evaluate for the possibility of nonlinear trends between independent and dependent variables. Examination of the two significant associations reported—that is, those of family religiosity and religious coping with quality of life at baseline—suggested linear patterns for all.

#### *Analyses of Positive and Negative Religious Coping*

The second set of analyses was aimed at replicating previous findings by Pearce, Singer, and Prigerson (2006) indicating that positive forms of religious coping are associated with more beneficial mental health outcomes, while negative forms of religious coping predict poorer mental health outcomes. Multiple regression analyses were used to examine the relative contributions of positive and negative forms of religious coping to mental health outcomes, after controlling for the effects of education.

For family members and patients, cross-sectional analyses yielded findings as well as several trends in expected directions, which are summarized in Tables 3.4 and 3.5. For family members, greater positive religious coping significantly predicted higher quality of life ( $b = .47, t(54) = 3.504, p < .01$ ), and greater levels of negative religious coping predicted lower quality of life ( $b = -.28, t(54) = -2.243, p < .05$ ). Furthermore, greater negative religious coping predicted greater emotional distress among relatives ( $b = .38, t(54) = 3.068, p < .01$ ). For patients, and consistent with study hypotheses, greater positive religious coping was strongly related to higher levels of quality of life ( $b = .35, t(37) = 2.078, p < .05$ ), and greater negative religious coping was associated with greater burden ( $b = .34, t(35) = 2.213, p < .05$ ).

This hypothesis was also tested using change score data. Among family members, results failed to reveal associations between changes in positive and negative religious coping and changes in mental health over time. For patients, increases in negative religious coping were significantly related to increases in quality of life ( $b = 1.192$ ;  $t(10) = 2.625$ ,  $p < .05$ ).

#### *Analyses of General Religiosity versus Religious Coping*

The third set of analyses aimed to replicate previous findings by Pargament and Brant (1998) suggesting that religious coping would be a stronger predictor than general religiosity of psychosocial adjustment. These analyses compared the strength of the previously calculated partial correlations of religious coping and general religiosity (at both family and individual levels) with each outcome measure (schizophrenia symptom severity, emotional distress, burden, and quality of life). Hotelling's test, which analyzes the significance of the difference between two dependent correlations (i.e., correlations from the same sample), was used to compare the correlations between general religiosity (both family and individual) and mental health outcome with those between religious coping and outcome.

For family members, this analysis was not carried out because prior correlational analyses failed to yield results where all three religious measures uniformly related to outcome variables in expected directions. For patients, this analysis focused specifically on religious measures at baseline and general emotional distress at termination, since such data were the only ones for which prior correlational analyses revealed expected trends.

Among patients, results revealed no differences between general religiosity and religious coping in their abilities to predict outcome. More specifically, the association of religious coping to emotional distress ( $r = -.40$ ) did not differ from that of family religiosity to emotional distress ( $r = -.26$ ;  $t = .55$ ,  $p > .05$ ) nor from the association between individual religiosity and emotional distress ( $r = -.42$ ;  $t = -.10$ ,  $p > .05$ ). Therefore, contrary to study hypotheses, religious coping was not a stronger predictor of emotional well-being than general religiosity among patients. Because this hypothesis was not supported by cross-sectional data, further analyses using change score data were not carried out.

#### *Analyses of Mediation Hypothesis*

A fourth set of analyses examined a mediational hypothesis positing that religiosity would mediate the ethnic differences expected in burden, emotional distress, quality of life, and schizophrenia symptom severity. The test of the mediational model was guided by Baron and Kenny's (1986) criteria for mediation. Specifically, using Baron and Kenny's guidelines, this analysis examined whether a) Hispanics (IV) reported greater religiosity (mediator) than Whites; (b) religiosity (mediator) was negatively related to emotional distress (DV 1), perceived burden (DV 2), and schizophrenia symptom severity (DV 3, for patients only), and positively related to quality of life (DV 4); (c) ethnicity (IV) was related to emotional distress (DV 1), perceived burden (DV 2), and symptom severity (DV 3) such that Whites reported greater levels of all three, and to quality of life (DV 4) such that Whites reported lower levels; and (d) the relationships of ethnicity (IV) with emotional distress (DV 1), perceived burden (DV 2), schizophrenia symptom severity (DV 3), and quality of life (DV 4) disappeared completely (indicating



full mediation) or were at least significantly reduced (indicating partial mediation) when these dependent variables were regressed on both ethnicity (IV) and religiosity (mediator).

For family members, the mediation analysis revealed the following results: (a) Hispanic relatives scored significantly higher than Whites on baseline levels of family religiosity (Hispanics:  $M = 6.57$ ,  $SD = 2.57$ ; Whites:  $M = 5.00$ ,  $SD = 2.49$ ;  $t(55) = -2.275$ ,  $p < .05$ ), individual religiosity (Hispanics:  $M = 50.53$ ,  $SD = 8.22$ ; Whites:  $M = 42.10$ ,  $SD = 5.89$ ;  $t(52) = -4.014$ ,  $p < .01$ ), and religious coping (Hispanics:  $M = 76.41$ ,  $SD = 18.12$ ; Whites:  $M = 53.38$ ,  $SD = 15.15$ ;  $t(53) = -4.865$ ,  $p < .01$ ). (b) Results revealed positive cross-sectional associations of family religiosity ( $r = .36$ ,  $p < .01$ ) and religious coping ( $r = .36$ ,  $p < .01$ ) with quality of life. (c) Results revealed no differences between Hispanics ( $M = 57.23$ ,  $SD = 11.82$ ) and Whites ( $M = 58.09$ ,  $SD = 11.38$ ) regarding quality of life ( $t(55) = .272$ ,  $p > .05$ ). Consequently, results failed to demonstrate that religiosity mediated the relationship between relatives' ethnic minority status and their indices of mental health.

For patients, the mediational analyses yielded the following results: (a) Hispanic patients scored higher than Whites on baseline levels of family religiosity (Hispanics:  $M = 7.48$ ,  $SD = 2.56$ ; Whites:  $M = 5.14$ ,  $SD = 2.85$ ;  $t(39) = -2.667$ ,  $p < .05$ ). Because the two groups did not significantly differ on individual religiosity and religious coping, these two variables were excluded from the remainder of this analysis. (b) Results revealed only non-significant trends between greater religion and better mental health, so the mediational analysis for patients did not proceed further. In sum, results failed to

demonstrate that religiosity mediated the relationship between ethnic minority status and mental health outcomes for patients.

*Analyses of Moderation Hypothesis*

This study also examined a moderational hypothesis: namely, that religion functions differently for Hispanics compared to Whites such that the association between religion and mental health is stronger for Hispanics than it is for Whites.

To test for moderation effects, all continuous predictors were standardized, as suggested by Hunter and Hamilton (2002). Interaction terms (ethnicity x religion) were computed and entered into multiple regression models predicting mental health outcomes. Subsequently, Pearson  $r$  correlations between religion variables and outcome variables were calculated separately for Whites and Hispanics to elucidate ethnic differences in religion-outcome associations; these correlations are summarized in Tables 3.6 and 3.7. Among family members, results yielded no significant interactions between ethnicity and any of the religion variables in predicting outcome for any variable. Thus, the moderation hypothesis did not receive support among family members.

For patients, results showed that the relationship between individual religiosity and general emotional distress was moderated by ethnicity, as the interaction term (individual religiosity x ethnicity) proved to be significant in the multiple regression model ( $b = .61$ ;  $t(33) = 2.292$ ,  $p < .05$ ). Subsequent correlational analyses revealed strong, near-significant trends towards greater individual religiosity predicting less emotional distress for White patients ( $r = -.59$ ,  $p = .07$ ) and more emotional distress for Hispanic patients ( $r = .38$ ,  $p = .10$ ).

Multiple regression analyses also showed a significant interaction between individual religiosity and ethnicity in predicting subjective burden ( $b = .86$ ;  $t(32) = 3.732$ ,  $p < .01$ ). In particular, greater individual religiosity was significantly related to greater burden for Hispanic patients ( $r = .65$ ,  $p < .01$ ) but tended to be strongly related to less burden for Whites patients ( $r = -.54$ ,  $p = .11$ ).

Lastly, ethnicity moderated the relationship between religious coping and burden ( $b = .83$ ;  $t(35) = 2.980$ ,  $p < .01$ ). More specifically, for Hispanic patients, greater religious coping was significantly related to greater burden ( $r = .69$ ,  $p < .01$ ); meanwhile, for White patients, there was no significant relationship between the two. Ethnicity did not appear to moderate the relationships between religion and quality of life or religion and schizophrenia symptom severity for patients.

## Chapter 4: Discussion

The aim of this study was to expand the existing literature on the influence of religion on mental health among schizophrenia patients and their loved ones. The available body of work has largely documented beneficial links between religion and mental health. This study attempted to replicate these findings in patients with schizophrenia and their family members and to test whether the relationships hold up longitudinally. The results of this study yielded a mixture of significant findings and non-significant trends that lend tentative support for some of the study hypotheses. Significant findings will first be discussed followed by an exploration of non-significant trends. Next, clinical implications will be discussed. The paper will conclude with a description of study limitations and suggestions for future research.

Several findings emerged that were in line with study hypotheses. For instance, one of the primary study hypotheses was supported among family members. Specifically, relatives who reported increases over time in their use of religious coping showed related decreases in their levels of emotional distress. This finding suggests that family members who increasingly turned to religious forms of coping in the face of intense distress may have, over time, experienced benefits from their religious involvement—through mechanisms such as meaning-making, sharing of one’s burden with God, and social support—that led to decreased emotional distress.

Also as expected, among family members (but not patients), religious coping and family religiosity were each cross-sectionally and positively linked to quality of life. Because the *Quality of Life Inventory (QOL)* captures the degree to which participants endorsed different life domains as pertinent to their happiness, and how satisfied

participants felt in each area, this finding suggests that relatives who identified religion as important in their lives were also likely to highly value other areas of life and feel satisfied in those areas.

The finding that reported religiosity at the family level (as assessed by the FES) was positively linked to quality of life for relatives but not patients suggests that what may be most helpful for religious caregivers is perceiving oneself as part of a larger family that espouses traditional religious values. In contrast, patients may have a different relationship with religion. For them, it may be that religion is more helpful when it is personalized and customized for their particular adverse situations. That is, for patients, how much they perceive their families as religious may be less salient for their own sense of satisfaction; instead, their strength and resilience may be located more in their personal, individualistic expressions of faith. This notion is suggested by unexpected findings in this study of a strong positive link among patients between increases in family religiosity (though not individual religiosity) and increases in emotional distress over time. It is also suggested by a trend of large effect size among patients between greater individual religiosity (though not family religiosity) at baseline and greater decreases in burden over time.

Study results partially supported the hypothesis that positive forms of religious coping (e.g., collaborating with God in working through one's difficulties and seeing struggles as opportunities for gaining strength) would be related to better mental health while negative forms of religious coping (e.g., viewing adversity as punishment from God or becoming angry at members of the religious community) would be associated with poorer mental health. In particular, positive religious coping was linked to better

quality of life for all participants. Meanwhile, negative religious coping demonstrated associations with several indicators of poor adjustment across both subsamples. Thus, it appears important to differentiate between positive and negative forms of religious coping for both patients with schizophrenia and their loved ones.

Although results failed to show that religion mediated the positive link between Hispanic ethnicity and better mental health relative to Whites, several expected and noteworthy findings emerged in the process of examining this hypothesis. For instance, Hispanic relatives were more engaged in all forms of religion measured in this study relative to White relatives, and Hispanic patients were more religious at a family level than White patients. These findings conform to prior research showing that collectivistic values and family cohesion are especially salient and culturally-sanctioned for Hispanics.

While several findings emerged that supported study hypotheses, there were also findings that contradicted hypotheses. In particular, greater religious coping was cross-sectionally associated with greater burden for patients. One possible explanation of this unexpected finding is that, overall, patients who were experiencing greater burden may have been more likely to have exhausted other means of coping and, thus, more often engage in religious means of coping compared to patients who felt relatively less burdened and, thus, felt less of a need to turn to their faith. That is, those patients experiencing greater burden and impairments in social, family, occupational, and other environmental domains—and, thus, for whom more traditional forms of coping were likely not working or unavailable—may have been more apt to be turning inwards and towards their faith, possibly as a last resort, in order to share some of the burden of their struggles with God.

Further analyses showed that the relationship between religion and mental health among patients was moderated by ethnicity. Specifically, greater individual religiosity and religious coping were linked to greater burden for Hispanics but tended to predict lower burden for Whites. As Hispanics often have less access to institutional and economic resources to help them deal with adversity, they may be more likely than Whites to turn to religion for assistance when they are feeling especially encumbered.

Another unexpected finding was found among patients such that increases over time in negative religious coping were linked to increases in quality of life. This finding is difficult to explain. It is possible, however, that patients who experienced improvements in their feelings of life satisfaction viewed such improvements as taking place in spite of, rather than due to, their religious involvement. Thus, as patients became more satisfied in their lives, they may have consequently become more distant from their religious communities.

This study also yielded a number of non-significant trends. Several of these trends were in expected directions. (For correlational trends, see results marked “^” in Tables 2a and 2b.) For instance, among patients, religious coping and quality of life tended to be cross-sectionally and positively linked with a medium effect size. Longitudinally, patients who reported greater individual religiosity also tended to show greater decreases in burden, with a very large effect size. Thus, if replicated with larger sample sizes, these findings may show that patients engaged in individualistic forms of religiosity would evidence improvements in their experiences of burden over time. These trends are also in line with previous findings of this study suggesting that patients with

schizophrenia often derive less benefit from communal, familial religious activities compared to individualistic religious practices.

Similar to the moderational findings obtained with patients, results for family members showed a trend for ethnicity to moderate the religion-adjustment link. (For statistical results, see Table 5.) Unlike with patients, the trends observed among relatives were in expected directions. More specifically, ethnicity tended to moderate the link among relatives between individual religiosity and quality of life. Follow-up tests showed that, for Hispanics, relatives reporting greater individual religiosity tended to show higher quality of life with a near-medium effect size, while for Whites, individual religiosity tended to predict lower quality of life with a medium effect size. These trends are in line with previously discussed research (Morano & King, 2005; Guarnaccia et al., 1992) showing that Hispanic caregivers, relative to Whites, more often turn to their faith in order to cope with the difficulties of caring for someone with severe mental illness and show greater psychosocial adjustment.

There were also trends among patients suggesting that Hispanics tended to report less emotional distress at treatment-termination than Whites, as expected. This trend is consistent with prior work showing that ethnic minorities evidenced better psychosocial outcomes relative to Whites (Weisman and López, 1996; Weisman, 2007).

In addition to trends that were in hypothesized directions, there were also trends that were contrary to expectations. Namely, in a trend demonstrating a large effect size, patients who were more individually religious at treatment-entry tended to experience greater increases over time in their schizophrenia symptom severity. Together with the previously discussed trend between individual religiosity at baseline and decreased



burden over time, this finding suggests that patients' diminished feelings of burden may result from greater religiosity, independent of their increased symptoms. That is, patients who were more religious at the beginning of treatment may have experienced worsening symptoms over time yet, nonetheless, may also have used their religious beliefs and practices to better cope with their symptoms and, thus, protect themselves against feelings of burden.

There was also a trend among patients between increases in religious coping and increases in burden over time. In line with the previously discussed trend, this trend may suggest that as patients felt increasingly burdened, they coped by increasingly turning to their faith to overcome their struggles.

This study also obtained some null findings. For instance, this study failed to demonstrate any differences between individual religiosity, family religiosity, and religious coping in the strengths of their relationships with mental health. Thus, results of this study failed to replicate previous findings that religious coping was a stronger predictor of well-being than general religiosity. These findings suggest that, for patients with schizophrenia and their loved ones, religious coping perhaps ought to be viewed as one facet of an individual's general religious orientation rather than a form of coping that is used by individuals independent of their religious orientations.

This study had several limitations. First, it was underpowered. The small sample specifically limited the examination of change score data, as only a portion of the total participants completed measures at termination. The small sample also particularly limited the examination of the hypothesis that ethnicity would moderate the links between religion and mental health, since this analysis required the sample to be divided

into even smaller sub-samples. This limitation may have also prevented the discovery in this study of real effects that may exist in the general population of patients and caregivers. Thus, because of the small sample size, our non-significant trends and null findings must be interpreted with caution.

A second limitation of this study was that the sample was predominantly Hispanic and Catholic. Different associations may have emerged with a more religiously diverse sample. Thirdly, the patients with schizophrenia in this study were exclusively outpatients and, by default, functioning at higher levels compared to inpatients. This limitation, consequently, narrows the scope of external validity of these findings. It is also possible that a self-selection bias was active such that patients with greater impairments and more severe symptoms were less apt to volunteer for the larger research study of which the present study was a part. If so, then findings from this study must be understood as potentially representing a very specific slice of the schizophrenia patient population.

A fourth limitation of this study was that participants received different treatments: some received 15 weeks of family therapy that included religious elements, whereas others received three weeks of strictly psychoeducation about schizophrenia. Although the effects of treatment group were controlled for in all analyses involving termination data, it would be helpful in future research to have a uniform intervening process. It is important to point out, though, that this study was interested in examining whether changes in religion took place and how they related to psychosocial outcome— independent of why such increases/decreases in religiosity occurred. In future research it would be very interesting to explore how targeted interventions may impact religious

orientation and how such impacts may subsequently relate to patients and their relatives' future functioning.

Fifth, this study was limited by the very low internal reliability for relatives on the negative religious coping subscale. It is unclear why internal reliability for this subscale was substantially lower for relatives than for patients. Nonetheless, the subscale is brief (3 items) and longer scales tend to be more reliable (Smith, McCarthy, & Anderson, 2000). Thus, future research would benefit from assessing negative coping with a more comprehensive measure.

Lastly, the longitudinal results of this study were limited by the brief time frame (i.e., 16-17 weeks between treatment-entry and treatment-termination) in which changes in key variables were measured. It is possible that this four-month window was not enough time for participants to experience significant increases or decreases in their religious involvement or mental health, thus limiting this study's ability to detect important relationships between these two constructs.

These limitations notwithstanding, this study yielded several findings and trends that have tentative implications for researchers and clinicians working with schizophrenia patients and their loved ones. First, results were in line with previous researchers' assertions that religion plays an important role in the lives of individuals dealing with persistent mental illness. In particular, the positive association for family members and similar trend for patients between increases in religiosity and improvements in mental health cautiously suggest that treatment interventions aimed at strengthening religious practices may be beneficial for individuals coping with schizophrenia. However, because increases in family religiosity (though not individual religiosity or religious coping)

related to increases in emotional distress for patients, clinicians perhaps should work with schizophrenia patients particularly on exploring ways that they can use their individualistic faith-based practices, independent of their relatives' religious beliefs and values, to better cope with their difficulties. Hence, results of this study partially aligned with D'Souza's (2002) finding that psychiatric inpatients deemed religion an important aspect of their treatment.

The results of this study also modestly suggest that clinicians should consider how the ethnicities of their patients may influence the effects of religious involvement. In particular, clinicians working with patients and their families should be aware that Whites and Hispanics may show different relationships with their religious involvement, particularly during times of stress. Furthermore, clinicians should also note that the ways that clients' well-being is connected to religion may differ between identified patients and family members.

Future examinations into the links between religion and mental health should be conducted with larger samples. These studies should also aim to include participants with a wider range of religious affiliations and schizophrenia symptom profiles. Specifically, the literature would benefit from further examinations into these links among inpatients and those with more severe schizophrenia symptoms.

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Table 3.1

*Zero-Order Correlations between Education and Primary Variables*

	Individual Religiosity (ROS)	Family Religiosity (FES)	Religious Coping (RCAS)	Emotional Distress (DASS)	Quality of Life (QOL)	Burden (MBAS)	Schizophrenia Symptoms (BPRS)
Patient Education	-0.12	-0.17	-0.26	-0.49**	0.12	-0.28	-0.21
Family Member Education	-0.45**	-0.18	-0.42**	-0.30*	0.08	-0.15	n/a

\*  $p < .05$

\*\*  $p < .01$

Table 3.2

*Partial Correlations of IVs with DVs for Family Members (Analysis 1)*

		General Emotional Distress (DASS)	Quality of Life (QOL)	Burden (MBAS)
Family Religiosity (FES)	BL x BL	-0.09	0.36**	-0.05
	BL x T	-0.36	0.40	0.36
	BL x CH	-0.33	-0.44	0.20
	CH x CH	0.51	0.02	-0.08
Individual Religiosity (ROS)	BL x BL	0.04	0.08	0.08
	BL x T	0.14	0.18	0.29
	BL x CH	-0.31	-0.14	0.01
	CH x CH	-0.28	0.41	0.07
Religious Coping (RCAS)	BL x BL	0.04	0.36**	0.05
	BL x T	-0.25	0.08	0.41
	BL x CH	-0.25	-0.47	-0.01
	CH x CH	-0.84**	0.37	-0.47

^  $p < .10$ \*  $p < .05$ \*\*  $p < .01$ 

Key:

BL = Baseline

T = Termination

CH = Change score

Table 3.3

*Partial Correlations of IVs with DVs for Patients (Analysis 1)*

		General Emotional Distress (DASS)	Quality of Life (QOL)	Burden (MBAS)	Schizophrenia Symptoms (BPRS)
Family Religiosity (FES)	BL x BL	-0.10	0.04	0.01	-0.22
	BL x T	-0.35	0.31	-0.63	-0.29
	BL x CH	-0.09	0.32	-0.18	0.40
	CH x CH	0.65*	0.04	-0.08	0.38
Individual Religiosity (ROS)	BL x BL	0.03	0.20	0.22	-0.22
	BL x T	-0.42	0.18	-0.68	-0.34
	BL x CH	0.09	0.24	-0.52^	0.52^
	CH x CH	0.19	-0.42	-0.04	-0.31
Religious Coping (RCAS)	BL x BL	0.14	0.33^	0.39*	0.02
	BL x T	-0.59	0.66	-0.52	-0.72
	BL x CH	-0.03	-0.11	-0.62*	0.14
	CH x CH	0.31	0.17	0.51^	0.32

^  $p < .10$ \*  $p < .05$ \*\*  $p < .01$ 

Key: BL = Baseline  
T = Termination  
CH = Change score

Table 3.4

*Standardized Beta Coefficients for Positive and Negative Religious Coping as Predictors of Mental Health at Baseline, for Family Members (Analysis 2)*

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	Emotional Distress (DASS)	Quality of Life (QOL)	Burden (MBAS)
Positive Religious Coping	0.01	0.47**	0.02
Negative Religious Coping	0.38**	-0.28*	0.16

$\wedge p < .10$

\*  $p < .05$

\*\*  $p < .01$

Table 3.5

*Standardized Beta Coefficients for Positive and Negative Religious Coping as Predictors of Mental Health at Baseline, for Patients (Analysis 2)*

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	Emotional Distress (DASS)	Quality of Life (QOL)	Burden (MBAS)	Schizophrenia Symptoms (BPRS)
Positive Religious Coping	0.07	0.35*	0.24	-0.05
Negative Religious Coping	0.11	0.02	0.34*	0.23

<sup>^</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

Table 3.6

*Partial Correlations of IVs with DVs for Relatives, Grouped by Ethnicity (Analysis 4)*

		General Emotional Distress (DASS)	Quality of Life (QOL)	Burden (MBAS)
Family Religiosity (FES)	Whites	-0.29	0.53*	-0.03
	Hispanics	-0.06	0.28	-0.16
	Whole Sample	-0.09	0.36**	-0.05
Individual Religiosity (ROS)	Whites	-0.03	-0.31	0.02
	Hispanics	0.06	0.25	0.02
	Whole Sample	0.04	0.08	0.08
Religious Coping (RCAS)	Whites	-0.13	0.44 <sup>^</sup>	-0.27
	Hispanics	0.08	0.39*	0.02
	Whole Sample	0.04	0.36**	0.05

<sup>^</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

Table 3.7

*Partial Correlations (controlling for education) of IVs with DVs for Patients, Grouped by Ethnicity (Analysis 4)*

		General Emotional Distress (DASS)	Quality of Life (QOL)	Burden (MBAS)	Schizophrenia Symptoms (BPRS)
Family Religiosity (FES)	Whites	-0.20	0.22	-0.31	-0.47
	Hispanics	-0.01	-0.06	0.14	-0.05
	Whole Sample	-0.10	0.04	0.01	-0.22
Individual Religiosity (ROS)	Whites	-0.59 <sup>^</sup>	0.20	-0.54	-0.47
	Hispanics	0.38	0.21	0.65**	-0.03
	Whole Sample	0.03	0.20	0.22	-0.22
Religious Coping (RCAS)	Whites	-0.40	0.60 <sup>^</sup>	-0.33	-0.10
	Hispanics	0.38	0.23	0.69**	0.13
	Whole Sample	0.14	0.33 <sup>^</sup>	0.39*	0.02

<sup>^</sup>  $p < .10$

\*  $p < .05$

\*\*  $p < .01$



Table 3.8

*Moderational Trend for Ethnicity among Family Members*


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Interaction Term	Unstandardized B	Std. Error	Standardized b	t	Sig.
Ethnicity x Individual Religiosity	.836	.511	1.849	1.635	.108

Correlations between Individual Religiosity and Quality of life	
Hispanics	Whites
$r = .25, p = .17$	$r = -.31, p = .22$