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Religious Versus Secular Coping in University Students Adjusting to Stress

by

Annunziata Marcoccia

A Thesis
Submitted to the Faculty of Graduate Studies
through Psychology
in Partial Fulfillment of the Requirements for
the Degree of Master of Arts at the
University of Windsor

Windsor, Ontario, Canada

2007

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Abstract

The present study examined the ability of religious coping to predict lower levels of depression and anxiety, and higher levels of life satisfaction and self-esteem, over and above the effects of secular coping. A sample of 18 first-year students from the University of Windsor who have moved to this location from a different county filled out questionnaires in October (time 1) and again in March (time 2). Religious coping was measured using the subscales of collaborative coping subscale, benevolent religious reappraisal, and seeking spiritual support from the RCOPE (Pargament, Koenig, & Perez, 2000). Secular coping was measured using the subscales of problem-focused coping, positive reappraisal, and social support from the COPE (Carver, Sheier, & Weintraub, 1989). Outcome variables included depression, anxiety, self-esteem, and life satisfaction. Results indicated that a decrease in collaborative religious coping predicted an increase in depression and an increase in life satisfaction, and a decrease in benevolent religious reappraisal predicted an increase in life satisfaction. The relations between religious coping, depression, and life satisfaction are discussed, along with the clinical applications of religious coping.

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Chapter I

Introduction

Overview and Background

The belief in God, or some Higher Power, is a world-wide phenomenon, and many people report that religion is closely related to their well-being (Harrison, Koenig, Hays, Eme-Akwari, & Pargament, 2001; Koenig & Larson, 2001). Yet, the empirical study of religion is lacking in the field of psychology (Weaver et al., 1998). Possible explanations for this gap in religious research include the assumption that scientific research does not include religion (Thomson, 1996), or the assumption that many people have replaced religion with science, rendering the study of religion unnecessary (Hill et al., 2000). In the small body of religious research, many studies have used global religious questions, such as church attendance and frequency of prayer (Larson, Patterson, Blazer, Omran, & Kaplan, 1986). This method of studying religion is insufficient due to the complexity of religion and the manner in which people incorporate religion into their lives. Thus, there is a great need for more detailed measures to examine the many facets of religion and to become more precise in studying how religion is related to mental health (Ano & Vasconcelles, 2004). The present study aims to enhance that precision by examining how people use religion and religious beliefs to help them cope with stressful life situations.

Religion vs. Spirituality

The first task in the study of religion is to define the term and to discuss the concepts of religion and spirituality. In the past, religion and spirituality have been inconsistently discussed and studied as either interchangeable terms or two different concepts (Zinnbauer et al., 1997). In general, religion is often conceptualized as

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institutional and formal, whereas spirituality is described as individual and subjective (Koenig, McCullough, & Larson, 2001). However, dichotomizing religion and spirituality into these separate categories places limitations onto the terms. For example, spirituality can exist in a social context and is emphasized in many organized religions (Hill et al., 2001). According to Pargament (1997), spirituality is a quest to find something sacred, such as God or the Ultimate Reality. This pursuit can be done in traditional and non-traditional religious contexts (Hill et al, 2000). It is the presence of something extraordinary and sacred that is the foundation for both religion and spirituality. Research has shown that most religious people obtain spirituality through their religion and do not distinguish between the two concepts (Marler & Hadaway, 2002). Thus, religion, as used in this study, is defined as "the search for significance in ways related to the sacred" (Pargament, 1997, p. 32).

Religious Coping

Various studies show that religion is related to greater longevity and both physical and mental health (Handal, Black-Lopez, & Moergen, 1989; George, Larson, Koenig, & McCullough, 2000; Lonczak, Clifasefi, Marlatt, Blume, & Donovan, 2006; Pressman, Lyons, Larson, & Strain, 1990; Seybold & Hill, 2001). In the quest to discover why religion is connected to mental health, many researchers have begun to study several facets of religion. One aspect of religion that has been instrumental in bridging between religion and mental health is the way in which people use religion as a coping mechanism to help them overcome stressful situations. According to Pargament (1997), stressed individuals take their religious orientation and transform this belief system into methods of coping. Koenig, Pargament, and Nielsen (1998, p. 513) describe this religious coping

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as "the use of religious beliefs or behaviours to facilitate problem-solving to prevent or alleviate negative emotional consequences of stressful life circumstances." Thus, religious coping provides a framework through which the study of religion gains both complexity and clarity (Pargament, Koenig, & Perez, 2000).

Studies in the past decade have successfully demonstrated a link between religious coping and mental well-being. For example, religious coping has been associated with lower levels of grief in a group of women bereaving the death of a child (Anderson, Marwit, Vandenberg, & Chibnall, 2005), fewer depressive symptoms in a group of medically ill men (Koenig, Cohen, Blazer, & Pieper, 1992), increased growth after a traumatic experience (Shaw, Joseph, & Linley, 2005), and less depression, less anxiety, and greater physical well-being in cancer patients (Cole, 2005). However, not all forms of religious coping are related to beneficial outcomes, and several studies have yielded mixed results regarding the costs and benefits of using religion to cope with life stressors (Ano & Vasconcelles, 2005; Pargament, 2002; Thompson & Vardaman, 1997). These mixed results may be the result of using global religious questions, such as frequency of prayer and church attendance, to measure religiosity (Fabricatore, Handal, Rubio, & Gilner, 2004; Hill & Pargament, 2003). In order to sort through the mixed results, researchers in this field have acknowledged the need to developed more detailed instruments to measure religiosity and religious coping.

In light of the need for a detailed yet parsimonious measure of religious coping, Pargament, Smith, Koenig, and Perez (1998) distinguish between potentially helpful and harmful forms of religious coping. The helpful subscales of religious coping are described by Pargament and colleagues as positive religious coping, whereas the harmful subscales

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are described as negative religious coping. This pattern of religious coping was evident in a sample of people dealing with the Oklahoma City bombing, in college students dealing with a serious negative event, and in hospitalized people dealing with serious medical illness (Pargament et al., 1998). Furthermore, result from this study indicated that the positive forms of religious coping are linked to better adjustment outcomes and well-being, whereas the negative forms of religious coping are associated with maladaptive adjustment outcomes and poor mental health. These findings are consistent with a variety of other studies (Ano & Vasconcelles, 2005; Greene et al., 1999; Pargament, Tarakeshwar, Ellison, & Wulff, 2001; Pieper, 2004; Sherman, Simonton, Latif, Spohn, & Tricot, 2005). Although it is important to understand both the positive and negative forms of religious coping, only three of the positive religious coping subscales will be discussed herein: collaborative religious coping, benevolent religious reappraisal, and seeking support from religious leaders or members (Pargament, Kennell, Hathaway, & Grevengoed, 1998).

Collaborative religious coping. Collaborative religious coping involves solving problems through a joint effort between an individual and God. It is in collaboration with God that control over the situation is regained (Pargament et al., 1988). This strategy of problem-solving requires a person to become active in the coping process by sharing responsibility with God. Collaborative religious coping is reported as a common problem-solving style among people who use religious coping, particularly those who have a strong commitment to religion and a close relationship with God (Pargament et al., 1988).

Use of collaborative religious coping has been related to positive mental health outcomes in many studies. For example, Pargament and colleagues (1988) found this

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style was related to an increased feeling of personal control and higher self-esteem. Pargament and Park (1995) indicated that collaborative religious coping seems to empower people in times of high stress. Collaborative religious coping has also been linked to improved physical and mental health (Cardella & Friedlander, 2004; Hathaway & Pargament, 1990; Yangarber-Hicks, 2004).

In a more recent study examining potential mediators and moderators of religious coping, Fabricatore and colleagues (2004) found that collaborative religious coping mediates the effects of religiosity and mental health. Results of the study also indicated that collaborative religious coping did not have moderating effects on the relation between stress and mental health. However, moderating effects of collaborative religious coping have been reported in other studies. For example, during times of uncontrollable and unpredictable high stress, collaborative religious coping moderated the relationship between stress and depression such that an increase in collaboration with God was related to a decrease in depressive symptoms (Bickel et al., 1998).

Benevolent religious reappraisal. Benevolent religious reappraisal is a method of coping through which an individual discovers sacred meaning in the midst of a difficult life situation (Pargament et al., 2000). In fact, finding meaning in difficult situations is likely one of the primary roles that religion plays in people's lives. When benevolent religious reappraisal is used, the stressor is reframed as beneficial and as a chance to experience spiritual growth (Pargament et al., 2000). The reappraisal occurs when a person attributes the stressful situation as part of God's plan, or a lesson to be learned which will lead to a closer relationship with God (Gall et al., 2005). Pargament (1997) explains that one possible benefit to benevolent religious reappraisal is that it helps

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people accept situations that are out of their control by placing their suffering in the realm of divinity, thereby deeming it incomprehensible. Furthermore, by reframing the stressful event in the context of an overarching plan, the event can be reinterpreted as having purpose (Gall et al., 2005).

Several studies have shown that benevolent religious reappraisal is related to positive mental health outcomes (Gall et al., 2005). For example, finding meaning through spiritual appraisals is linked to an initial reduction of distress, which allows the person to use other coping strategies (Davis, Nolen-Hocksema, & Larson, 1998). Benevolent religious reappraisal can also be effective in helping an individual gain a sense of control when confronted with an uncontrollable situation (Spilka, Shaver, & Kirkpatrick, 1985). The benefits of this type of reappraisal have been demonstrated in people dealing with bereavement, medical illness, even trauma (Davis et al., 1998; Gall & Cornblat, 2002; Wong & McDonald, 2001).

Support from Religious Leaders. When faced with a difficult life circumstance, many people seek support from a religious leader or other members belonging to the same religious affiliation. This support gives an individual the opportunity to experience a sense of social camaraderie through which they feel comforted (Pargament et al., 2000). Seeking support from religious leaders or fellow church members appears to be an effective coping strategy because the people within that social group have similar beliefs and values, and the support is consistently available as a group, even if particular members within it change (Ellison & Levin, 1998). The ability to cope can be enhanced by seeking advice from religious leaders (Koenig, George, & Siegler, 1988) and it is helpful for people to know that prayers are being said on their behalf (Hill & Pargament,

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2003). Support from religious leaders and religious members has been associated with positive well-being in a variety of studies (Ellison & Levin, 1998). For example, religious support has been connected to a decrease in depression and an increase in both life satisfaction and positive affect (Fiala, Bjorck, & Gorsuch, 2002). Maton (1989) found that during times of high financial stress, life satisfaction increased in supportive religious settings. Moreover, support from church members appears to be separate from general social support. Nooney and Woodrum (2002) found that church based social support was negatively correlated with depression and accounted for unique variance when predicting mental health.

Limitations of Religious Coping Research

Much of the research regarding religious coping is beset by limitations when drawing inferences from the results. One of the main limitations of studies in this area is that they are retrospective and cross-sectional. In other words, participants are asked to report on a stressor that happened months or years prior, and to report how they coped with that stressor (Fabricatore et al., 2004). Furthermore, the outcome measures (usually pertaining to mental or physical health) are measured throughout the duration of the study instead of being measured both simultaneously and immediately after the stressful event and coping behaviour (Fabricatore et al., 2004). This method invites error in the interpretation of the results because other variables may have influenced on those outcome measures during the time between the stressor/coping and the testing.

In order to investigate the relation between religious coping and mental health, more longitudinal studies are needed so that history effects are minimized and reporting is more accurate. Moreover, longitudinal studies are needed in order to step beyond

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correlational associations between religious coping and mental health by studying religious coping methods as predictors of mental health outcomes (Ano & Vasconcelles, 2005). By using a longitudinal design, the reliability of the inferences drawn from the results is improved.

Longitudinal studies. There are only a handful of longitudinal studies investigating the effects of religious coping on mental health outcomes. Tix and Frazier (1998) studied the relation between religious coping and psychological adjustment in patients who had undergone renal transplant surgery 3 months prior to the study. They also studied the psychological adjustment of each participant's significant other. The religious coping measure consisted of 10 items pertaining to the amount of religious coping each participant used to handle transplant related stress. Possible mediating variables were also measured, including cognitive restructuring, social support, and control. Outcome measures given at 3 months and 12 months post-transplantation were distress (depression, anxiety, and hostility), and life satisfaction. Using hierarchical regression, Tix and Frazier found that religious coping at 3 months was related to greater life satisfaction and less distress at 3 months for both patients and their significant others. Furthermore, religious coping at 3 months predicted greater life satisfaction at 12 months even after controlling for demographics and potential mediating variables, such as cognitive restructuring, social support, and perceived control. The authors conclude that religious coping is a unique strategy source that can predict psychological adjustment to stress beyond secular coping strategies.

In a recent longitudinal study of people experiencing and recovering from cardiac surgery, religious coping predicted better short-term post-operative global functioning

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(SPGF) outcomes after one month of recuperation (Ai, Peterson, Bolling, & Rodgers, 2006). Religious coping was assessed using the Brief RCOPE, consisting of 14 religious coping items. Half of this scale includes negative religious coping strategies, whereas the other half includes positive religious coping strategies, such as collaborative religious coping, seeking spiritual support, and benevolent religious reappraisal. Perceived social support was also measured as a potential predictor variable. Outcome measures included SPGF, depression, and anxiety. After controlling for demographics, perceived social support, physical health, and depression, regression analysis showed that improved SPGF was predicted by positive religious coping.

Pargament, Koenig, Tarakeshwar, and Hahn (2004) used a sample of elderly people hospitalized for medical illness to study the longitudinal effects of religious coping on mental, physical, and spiritual health. Baseline measures included the RCOPE- a 63-item measure of religious coping that incorporated both positive and negative forms of religious coping. Outcome measures at baseline were depression, stress-related growth, quality of life, spiritual outcome, physical functioning, cognitive functioning, and severity of medical illness. At the 2-year follow-up, the same variables were measured with the exception of religious coping, which was measured using the 14-item Brief RCOPE. Using regression analysis, it was found that religious coping at baseline predicted stress-related growth, depressive symptoms, functional status, cognitive functioning, and spiritual outcome after all potentially confounding variables were controlled. Specifically, positive religious coping predicted an increase in stress-related growth, cognitive functioning, and spiritual outcome.

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In a study that investigated the effects of religious coping on depressive symptoms in hospitalized elderly men, religious coping was found to be associated with fewer depressive symptoms after controlling for demographic and health variables (Koenig et al., 1992). After 6 months, follow-up analysis revealed that religious coping was the only baseline measure that predicted low depressive symptoms.

The longitudinal studies investigating the predictive ability of religious coping on well-being are fairly consistent and the results bolster the findings of cross-sectional research. It appears that religious coping is a unique method of dealing with stressful life events and can have a positive effect on adjustment outcomes when used in adaptive ways (i.e. positive religious coping). However, there are a few limitations to these studies. First, few of these studies examined positive religious coping methods as a group to predict mental health outcomes. For example, Koenig et al. (1992) used a religious coping measure that only consisted of three items pertaining to general religious practices. As previously discussed, this method of measuring religiosity and religious coping lacks detail and sophistication.

Second, with the exception of Pargament et al. (1994), the stressor used in most studies was related to medical illness or surgery. This brings to light the need to study religious coping in the presence of alternate stressors. Furthermore, most of the participants used in these studies were middle-aged adults. The value of religious coping needs to be tested with people of all ages because religiosity appears to affect people in different ways at different times across the lifespan (Peacock & Poloma, 1999). For example, in younger people, religion is used to promote spiritual growth, which involves

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the development of personal identity and close relationships. In older people, religion is more closely tied to the restructuring of priorities and confronting death.

Third, nearly all of the studies involve Christian respondents, particularly Catholic and Protestant. It is important to examine religious coping in other religious contexts and worldviews (Ano & Vasconcelles, 2005). Finally, although some studies report unique effects of religious social support over secular social support (Nooney & Woodrum, 2002; Schottenbauer, Klimes-Dougan, Rodriguez, Arnkoff, Glass, & Lasalle, 2006; VandeCreek, Pargament, Belavich, Cowell, & Friedel, 1999), there is a lack of longitudinal studies demonstrating the ability of religious coping to predict changes in mental health over and above the effects of secular coping. Comparing religious and secular coping is important due to the seemingly similar characteristics of both coping methods.

Secular Coping

There are secular coping strategies that are similar to the methods of religious coping previously discussed. Collaborative religious coping (problem-solving together with God to gain control over the situation) is parallel to the secular coping strategy called problem-focused coping. This type of coping is a dynamic, hands-on approach to coping wherein the individual is active in finding a solution to the problem (Folkman & Lazarus, 1980). Due to the high level of initiative and responsibility that is placed on the individual to cope effectively, problem-focused coping is typically most helpful in controllable situations (Lazarus & Folkman, 1985). Although results throughout the literature are mixed depending on the stressor used, problem-focused coping has been

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associated with better mental health (Chapman, Specht, & Cellucci, 2005; Livneh, Lott, & Antonak, 2004).

Similar to benevolent religious reappraisal, positive reappraisal is a secular coping strategy in which the individual reinterprets a stressful situation to improve his or her coping abilities. For example, an individual may reinterpret a stressful situation as an opportunity to learn and grow (Folkman & Moskowitz, 2004). Positive reappraisal is reported to be associated with stress-related growth in women living with HIV/AIDS (Siegel, Schrimshaw, & Pretter, 2005), positive mood and perceived health in women with breast cancer (Sears, Stanton, & Danoff-Burg, 2003), psychological well-being in nursing home residents (Danhauer, Carlson, & Andrykowski, 2005), and lower depression and anxiety symptoms in high school students (Garnefski, Kraaij, & Spinhoven, 2001). Problem-focused coping and positive reappraisal have been found to be complimentary methods of coping and are often used in conjunction with each other (Folkman & Moskowitz, 2004).

Finally, social support is a widely used coping strategy in which an individual depends on the interaction with others to reduce the negative effects of stress (Kessler, Price, & Wortman, 1985). Although the efficacy of social support depends on a variety of variables, such as characteristics of the individual, social group, and stressor involved (Dunkel-Schetter, Folkman, & Lazarus, 1987), social support has been found to be a mediator between health and well-being such that increased social support is related to a decrease in the negative health effects of distress (DeLongis, Lazarus, & Folkman, 1988; Wallston, Alagna, DeVellis, & DeVellis, 1983). Recently, secular social support has been compared to religious social support. Results indicated that religious social support is

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predictive of mental health after the effects of secular social support are controlled (Ellison et al., 1997; VandeCreek et al., 1999).

Present Study and Hypotheses

Aside from the few studies comparing secular social support and religious social support, there is little research examining the predictive validity of religious coping above and beyond the effects of secular coping. The present study compared the effectiveness of religious and secular coping strategies in relation to depression, anxiety, life-satisfaction, and self-esteem of students during the transition into university and young adulthood. It is important for students to cope effectively because the transition to university is a stressful period (Compas, Wagner, Slavin, & Vannatta, 1986) that often leads to depression and anxiety (Nafziger, Couillare, Smith, & Wiswell, 1998), which may increase drop out rates. Based on previous longitudinal studies, it was hypothesized that in conditions of high stress, the religious coping subscales of collaborative religious coping, benevolent religious reappraisal, and seeking spiritual support from religious leaders and members would be negatively correlated to symptoms of depression and anxiety, and positively correlated to life satisfaction and self-esteem. Moreover, it was hypothesized that over time, religious coping would predict lower levels of depression and anxiety, and higher levels of life satisfaction and self-esteem. These effects were hypothesized to be present above and beyond the effects of similar secular coping strategies, such as problem-focused coping, positive reappraisal, and social support. Finally, the relation between locus of control, coping, and mental health was investigated in a logistical regression analysis. Due to mixed results in studies examining locus of control and coping, no specific hypothesis was made.

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Chapter II

Method

Participants

Participants were 13 female and 5 male first year students at the University of Windsor who have moved from a different county (outside of Essex County) to attend university locally. The age range of the participants was from 18 to 23 years old with a mean age of 18.61 years. Fifteen participants identified themselves as Christian. The remaining three participants identified as Atheist, Agnostic, and as having no religious affiliation. Eight participants reported living in a house, nine reported living in university residence, and one reported living in an apartment. The number of roommates ranged from none to more than four with a mean of two roommates. Participants reported their definition of God as follows: two identified God as being everyone, seven believe that God is the all-powerful, all-knowing, perfect creator, six believe that God is the total realization of human potential, one believes that there are many gods, and two do not believe that God exists. Participants reported their perception of the future as follows: three believe their future is pre-ordained by God, two believe that their destiny is fixed, and thirteen believe that their future and the state of the world is a product of human decision.

Procedure

Participants were recruited through the university participant pool and were given three bonus marks allocated toward a psychology course for participating in this study. To minimize the effects of attrition, there was also a draw for $50 as an incentive for participants to attend both testing sessions. Each participant signed a consent form

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explaining the purpose and procedure of the study. The full battery of questionnaires was completed in October and November (Time 1) and again in March and April (Time 2). Participants were tested either individually or in small groups of 2 to 6 people. Prior to test administration, research ethics clearance was obtained through the University of Windsor Board of Research Ethics.

Measures

Demographics. Demographic information, such as age, gender, academic program, religious affiliation, and current living conditions was collected. Information regarding participants' conceptualization of God and the future was also collected using a multiple choice question format whereby participants circled the response with which they agreed most. These multiple choice items were taken from an on-line statistical report operated by a Christian research marketing firm called The Barna Group (The Barna Group of Ventura, 2006).

Religiosity measures. As a measure of the participants' degree of religiosity, the Intrinsic-Extrinsic Religiousness Scale-Revised was used (I/E-R; Gorsuch & McPherson, 1989). This scale is based on the Religious Orientation Scale (Allport & Ross, 1967) and consists of 14 items scored on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Eight items correspond to intrinsic religiousness ("I have often had a strong sense of God's presence"), while three items correspond to extrinsic-personal religiousness ("I pray mainly to gain relief and protection") and three items correspond to extrinsic-social religiousness ("I go to church because it helps me to make friends"). Three items on the intrinsic scale (items 3, 10, and 13) are reversed scored. Higher scores for each scale represent higher levels of religiosity. Using a college student sample,

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Cronbach's alpha level for the intrinsic and extrinsic scales has been reported to be .88 and .76, respectively (Salsman, Brown, Brechting, & Carlson, 2005). To ensure that the scale was appropriate for participants of any religious denomination, the term "God" was be replaced with "Higher Power or Ultimate Reality", and the term "church" was be replaced with "religious institution".

Predictor Variables

Stress. Participants were given the Perceived Stress Scale (PSS) which has 14 items ("in the last month, how often have you felt that you were on top of things?") scored on a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*) with items 4, 5, 7 and 8 reverse scored. Higher composite scores indicate more stress. Cronbach's alpha level using a sample of college students has been found to be .85, and test-retest reliability has been reported at .85 after 2 days (Cohen, Kamarck, & Mermelstein, 1983).

Control. Locus of control was measured using the Abbreviated Locus of Control Scale (ALOC; Valecha & Ostrom, 1974). The scale consists of 11 items from Rotter's (1966) Internal-External Locus of Control scale. In a factor analysis of this abbreviated scale, Barnett and Lanier (1995) found that eight of the items belonged to a single-factor solution and had an alpha level of .69, which falls within the alpha range reported for the original scale. It is recommended that the scale be scored using a Likert format instead of the forced-choice format of the original scale (Barnett & Lanier, 1995; Lumpkin, 1985). Furthermore, being that this study pertains to students adjusting to school, three items regarding academic locus of control from the original scale were added to the abbreviated form. Thus the scale contains 11 items in total. Each item gives a choice of two statements: one statement reflects an internal locus of control while the other statement

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reflects an external locus of control. Participants choose the statement with which they most agree, and then rate that statement as either "much closer" or "slightly closer" to their belief of opinion. If the internal locus of control statement is selected, then "much closer" receives a score of 1 and "slightly closer" receives a score of 2. If the external locus of control statement is selected, then "slightly closer" and "much closer" receives a score of 3 and 4, respectively. Overall low scores reflect an internal locus of control and overall high scores reflect an external locus of control. This method of scoring is suggested by Barnett and Lanier (1995).

Secular Coping. Three subscales from the COPE (Carver, Sheier, & Weintraub, 1989) were used to measure secular coping. Problem-focused coping will be measured using the Active Coping subscale ("I concentrate my efforts on doing something about it") and the Planning ("I try to come up with a strategy about what to do") subscale. Social support will be measured using the Seeking social support for instrumental reasons subscale ("I ask people who have had similar experiences what they did") and the Seeking social support for emotional reasons subscale ("I talk to someone about how I feel"). Positive reappraisal will be measured using the Positive reinterpretation and growth subscale ("I look for something good in what is happening"). Each subscale consists of four items scored on a 4-point Likert scale (1 = I usually don't do this at all, 2 = I usually do this a little bit, 3 = I usually do this a medium amount, 4 = I usually do this a lot). Using a sample of college students, Cronbach's alpha levels of each subscale have been found to range from .62 to .85 (Carver et al., 1989).

Religious Coping. Assessment of religious coping was measured using three subscales from the Religious COPE inventory (RCOPE; Pargament et al., 2000):

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Collaborative Religious Coping ("Tried to put my plans into action together with God"), Benevolent Religious Reappraisal ("Saw my situation as part of God's plan"), and Seeking Support from Clergy or Members ("Looked for spiritual support from religious leader"). Using a college student sample, Cronbach's alpha levels were found to be .89, .91, and .90, respectively. Each subscale consists of five items scored on a 4-point Likert scale ranging from 0 (*not at all*) to 3 (*a great deal*). The RCOPE was developed using a primarily Christian sample (Pargament et al., 2000). However, the Brief RCOPE, consisting of 14 items from the RCOPE (Pargament et al., 2000), has been used with a Muslim sample (Ai, Peterson, & Huang, 2003; Ai et al., 2005), and it has also been adapted for a Jewish sample of children (Dubow, Pargament, Boxer, & Tarakeshwar, 2000). In order to accommodate participants from a variety of religious affiliations, generic language will be used in place of traditional Christian terms. For example, the term "God" was changed to "Higher Power or Ultimate Reality", the term "clergy" was changed to "religious leaders", and the term "church" was changed to "religious institution".

Outcome Measures

Depression. Participants were given the Center for Epidemiologic Studies Depression Scale (CES-D), which contains 20 items scored on a 4-point Likert scale ranging from 0 (*rarely or none of the time*) to 3 (*most or all of the time*) with items 4, 8, 12, and 16 reversed scored. A composite score above 16 is considered depressed, but the scale should not be considered valid if there are more than 4 items missing. It is reported to have an alpha level above .90 in both a clinical and non clinical sample (Radloff, 1977)

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and the test-retest reliability in these samples ranged from .32 after 12 months to .67 after 4 weeks.

Anxiety. Anxiety was measured using the Short Form of the Spielberger State Anxiety Inventory (SF-STAI) consisting of 6 items scored on a 4-point Likert scale ranging from 1 (*not at all*) to 4 (*very much*) with items 2, 3, and 6 reverse scored. The range of possible composite scores is 4 to 26 with higher scores indicating greater anxiety. Cronbach's alpha level was reported to be .82 in a sample of pregnant women (Marteau & Bekker, 1992).

Life Satisfaction. Participants were given the Satisfaction With Life Scale (SWLF) which consists of five items scored on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree". Composite scores may fall into one of seven categories, including Extremely dissatisfied (5-9), Dissatisfied (10-14), Slightly dissatisfied (15-19), Neutral (20), Slightly satisfied (21-25), Satisfied (26 -30), and Extremely satisfied (31-36). The scale has yielded an alpha level of .87 using a college student sample (Diener, Emmons, Larsen, & Griffin, 1985).

Self-esteem. The Rosenberg Self-Esteem Scale (SES) was used (Rosenberg, 1965). It consists of 10 items scored on a 4-point Likert scale (strongly agree = 3, agree = 2, disagree = 1, strongly disagree = 0) whereby higher scores correspond to higher self-esteem. Items 2, 5, 6, 8, and 9 are reverse scored. Using a college student sample, Fleming and Courtney (1984) reported an alpha level of .88 and a test-retest correlation of .82 within a 1-week time period.

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Chapter III

Results

Despite recruitment efforts, the sample size of the study was 18 participants. Typically, when analyzing data, researchers set a conservative alpha level of .05 or .01 in order to reduce the chance of committing a Type I error. However, if data with such a small sample were to be analyzed using the traditional alpha level of .05 or .01, there would be insufficient power, which is the probability of correctly rejecting the null hypothesis when it is false. According to Stevens (2002), conservative alpha levels result in a high risk of committing a Type II error. When dealing with extremely small samples, Stevens suggests that an increase of the alpha level to .10 would greatly reduce the chances of making a Type II error and would increase power. Although the increased alpha level also increases the chances of making a Type I error, Stevens notes that the increase of power helps to maintain balance between the two error probabilities. Increasing the chances of making a Type I error is not recommended when conducting research that is potentially harmful to the public, such as concluding that a medication has no ill effects when it in fact is harmful. Since this study does not pose danger to the public should a Type I error occur, the alpha level chosen throughout the data analysis was .10.

Descriptive Statistics

Reliability. The reliability of each scale was examined for both time 1 and time 2. Cronbach alpha levels revealed that reliability ranged from adequate to excellent for the following scales: Problem Focused Coping (COPE), Positive Reappraisal (COPE), Social Support (COPE), Collaborative Religious Coping (RCOPE), Benevolent Religious Reappraisal (RCOPE), Seeking Support from Clergy and Members (RCOPE),

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Intrinsic/Extrinsic Religiosity – Revised (I/E-R), Rosenberg Self-Esteem Scale (SES), and Satisfaction With Life Scale (SWLS). The remaining scales of the Abbreviated Locus of Control (ALOC), Perceived Stress Scale (PSS), Spielberger's State Anxiety Inventory–Short Form (STAI-SF), and the Centre for the Epidemiologic Studies Depression Scale (CES-D) were altered in order to obtain adequate reliability for both time 1 and time 2 using the same question items each time. All alpha levels ranged from .69 to .95. Table 1 displays the alpha levels and items included for each scale.

Table 2 presents the mean, standard deviation, range of scores, and range of possible scores for each scale at both time 1 and time 2. It is important to note that at time 2, 22% of the participants changed their definition of God and 33% changed their perception of the future. Furthermore, everyone reported depression scores higher than 16, which is the cut-off score for clinical depression, while the mean life satisfaction score fell in the "slightly satisfied" range at time 1 and the "satisfied" range at time 2. Paired-samples *t*-tests indicated that the means of several scales significantly changed between time 1 and time 2. The variables that significantly increased included depression, $t(17) = -3.12, p < .01$, and life satisfaction, $t(17) = -2.18, p < .05$, while variables that significantly decreased were total religious coping, $t(17) = 2.51, p < .05$, collaborative religious coping, $t(17) = 1.87, p < .10$, self-esteem, $t(17) = 2.13, p < .05$, and locus of control, $t(17) = 2.36, p < .05$.

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Table 1

Alpha Levels and Scale Items

Scale	Time	Cronbach's Alpha	Scale Items Not Included	Total # of Items
Problem Focused Coping	1	.78	All items	8
	2	.88	All items	8
Positive Reappraisal	1	.87	All items	4
	2	.87	All items	4
Social Support	1	.80	All items	8
	2	.84	All items	8
Collaborative Religious Coping	1	.92	All items	5
	2	.95	All items	5
Benevolent Religious Reappraisal	1	.94	All items	5
	2	.88	All items	5
Seeking Support from Religious Leaders/Members	1	.86	All items	5
	2	.86	All items	5
Intrinsic Religiosity	1	.81	All items	8
	2	.71	All items	8
Extrinsic Religiosity	1	.69	All items	6
	2	.77	All items	6
Rosenberg Self-Esteem	1	.89	All items	10
	2	.93	All items	10
Satisfaction With Life	1	.74	All items	5
	2	.72	All items	5
Perceived Stress	1	.71	10, 12, 13	11
	2	.80	10, 12, 13	11
Abbreviated Locus of Control	1	.70	6, 10, 11	8
	2	.79	6, 10, 11	8
Centre for the Epidemiologic Studies Depression	1	.70	4, 8, 12, 16	16
	2	.72	4, 8, 12, 16	16
Spielberger's State-Trait Anxiety Inventory – short form	1	.70	3, 5, 6	3
	2	.69	3, 5, 6	3

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Table 2

Means, Standard Deviations, and Ranges

Scale	Time	Mean	Standard Deviation	Actual Range	Possible Range
Problem Focused Coping	1	22.72	4.61	14 – 30	8 – 32
	2	23.44	4.78	13 – 32	8 – 32
Positive Reappraisal	1	12.72	3.16	6 – 16	4 – 16
	2	12.44	2.62	8 – 16	4 – 16
Social Support	1	25.39	4.30	17 – 32	8 – 32
	2	24.11	4.46	14 – 31	8 – 32
Collaborative Religious Coping	1	4.94	4.61	0 – 13	0 – 15
	2	3.94	4.53	0 – 14	0 – 15
Benevolent Religious Reappraisal	1	5.33	4.75	0 – 15	0 – 15
	2	5.17	4.42	0 – 15	0 – 15
Seeking Support from Religious Leaders/Members	1	2.50	3.40	0 – 10	0 – 15
	2	1.72	2.45	0 – 8	0 – 15
Intrinsic Religiosity	1	22.22	5.77	12 – 36	8 – 40
	2	22.67	5.30	15 – 37	8 – 40
Extrinsic Religiosity	1	14.56	4.40	6 – 21	6 – 30
	2	14.67	4.22	8 – 22	6 – 30
Rosenberg Self-Esteem	1	18.28	4.69	12 – 27	0 – 30
	2	16.06	3.96	10 – 24	0 – 30
Satisfaction With Life	1	24.50	5.28	17 – 32	5 – 36
	2	26.61	4.12	18 – 32	5 – 36
Perceived Stress	1	22.17	4.41	15 – 29	0 – 44
	2	20.11	5.19	12 – 30	0 – 44
Abbreviated Locus of Control	1	16.94	3.96	12 – 24	8 – 32
	2	15.39	4.26	9 – 23	8 – 32
Centre for the Epidemiologic Studies Depression	1	32.72	5.54	23 – 39	0 – 48
	2	36.78	5.08	26 – 44	0 – 48

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Spielberger's State-Trait	1	5.72	1.90	3 – 10	3 – 12
Anxiety Inventory – short form	2	4.89	1.75	3 – 8	3 – 12

N = 18

Both univariate and multivariate outliers were assessed and their z-scores were found to be above the cut-off value of 2.56, recommended for small sample sizes (Field, 2000). Furthermore, the Mahalanobis distance for one case was above the cut-off value of 4.61 at $p < .10$ with two predictors. Therefore, a procedure was done whereby the outlying cases were altered by making them one higher than the next highest value within that variable (Tabachnick & Fidell, 2001). Once outliers were assessed, normality, linearity, and homoscedasticity were examined. The z-scores of the skewness and kurtosis for each scale fell within the acceptable range indicating close to normal distribution, and the probability plots as well as the residual plots visually indicated acceptable linearity and homoscedasticity.

Hypothesis 1

Pearson's correlation analysis revealed no significant associations between religious coping variables at time 1 and outcome variables at time 1. For religious coping variables at time 1 and outcome variables at time 2, benevolent religious reappraisal was negatively correlated with life satisfaction, $r = -.44, p < .10$, and collaborative religious coping was negatively correlated with both life satisfaction, $r = -.62, p < .01$, and depression, $r = -.41, p < .10$. Again at time 2, benevolent religious reappraisal was negatively correlated with life satisfaction, $r = -.53, p < .05$, and collaborative religious coping was negatively correlated with both life satisfaction, $r = -.61, p < .01$, and depression, $r = -.44, p < .10$. All correlations between the religious coping subscales and

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intrinsic/extrinsic religiosity were significantly positive with the exception of extrinsic religiosity time 1 with support from religious leaders/members time 2, and intrinsic religiosity with support from religious leaders/members. Table 3 presents the correlation matrix for collaborative religious coping, benevolent religious coping, support from religious leaders/members, depression, life satisfaction, internal religiosity, and external religiosity at time 1 and time 2.

Table 3

Pearson's Correlations of Religious Coping, Religious Orientation, Depression, and Life Satisfaction at Time 1 and Time 2

RCOPE Subscale	Internal Relig1	External Relig1	Internal Relig2	External Relig2	Depress2	Life Satisfact2
Collaborative1	.81***	.78***	.75***	.87***	-.41*	-.62***
Benevolent1	.85***	.65***	.76***	.79***	-.38	-.44*
Leader/Memb1	.23	.40*	.27	.47**	-.11	-.34
Collaborative2	.81***	.77***	.88***	.78***	-.44*	-.61***
Benevolent2	.79***	.79***	.84***	.77***	-.39	-.53**
Leader/Memb2	.35	.39	.35	.52**	.21	-.34

Note. Collaborative: Collaborative Religious Coping; *Benevolent*: Benevolent Religious Reappraisal; *Leader/Memb*: Support from Religious Leaders/Members; *Internal Relig*: Internal Religious Orientation; *External Relig*: External Religious Orientation; *Depress*: Depression; *Life Satisfact*: Life Satisfaction.

* $p < .10$; ** $p < .05$; *** $p < .01$.

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There were several other important significant correlations to note. At time 1, there were significant negative correlations between outcome variables of depression and self-esteem, $r = -.49, p < .05$, depression and stress, $r = -.54, p < .05$, and anxiety and self-esteem, $r = -.52, p < .05$. At time 2, there were negative correlations between depression and both anxiety, $r = -.53, p < .05$, and self-esteem, $r = -.82, p < .01$. Among the secular coping variables at time 1, social support was negatively correlated with benevolent religious reappraisal, $r = -.44, p < .10$, and positively correlated with stress, $r = .44, p < .10$, and positive reappraisal was negatively correlated with stress, $r = -.54, p < .05$. When analyzing secular coping variables at time 1 with other variables at time 2, social support had a significant negative correlation with collaborative religious coping, $r = -.43, p < .10$, and positive reappraisal had a significant positive correlation with collaborative religious coping, $r = .44, p < .10$. Again at time 2, a significant negative correlation was found between positive reappraisal and stress, $r = -.47, p < .05$. A correlation matrix of the results mentioned above is presented in Table 4 and Table 5.

Table 4

Pearson's Correlation Matrix of Depression, Self-Esteem, Anxiety, and Stress at Time 1 and Time 2

	1	2	3	4	5	6	7
1 Depression1	1	-	-	-	-	-	-
2 Self-Esteem1	-.49**	1	-	-	-	-	-
3 Anxiety1	.19	-.52**	1	-	-	-	-
4 Stress1	-.54**	.26	.12	1	-	-	-
5 Depression2	.46*	-.35	.19	.05	1	-	-

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6 Self-Esteem2	-.26	.49**	-.23	.02	-.82***	1	-
7 Anxiety2	-.10	-.03	.08	.00	-.53**	-.23	-
8 Stress2	-.20	.44*	-.15	.33	-.39	.52**	.16

* $p < .10$; ** $p < .05$; *** $p < .01$.

Table 5

Pearson's Correlation Matrix of Secular Coping, Religious Coping, and Stress at Time 1 and Time 2

	1	2	3	4	5	6	7	8	9
1. Pos1	1	-	-	-	-	-	-	-	-
2. Sup1	-.29	1	-	-	-	-	-	-	-
3. Ben1	.25	-.44*	1	-	-	-	-	-	-
4. Col1	.25	-.30	.90***	1	-	-	-	-	-
5. Str1	-.54**	.44*	-.35	-.28	1	-	-	-	-
6. Pos2	.32	-.09	-.13	-.15	-.15	1	-	-	-
7. Sup2	-.10	.51**	-.22	-.14	.44*	.01	1	-	-
8. Ben2	.29	-.39	.85***	.84***	-.24	-.14	-.01	1	-
9. Col2	.44*	-.43*	.78***	.88***	-.33	.06	-.12	.88***	1
10. Str2	.01	.11	.02	.10	.18	-.47**	.09	.24	.10

Note. Pos: Positive Reappraisal; *Sup*: Social Support; *Ben*: Benevolent Religious Reappraisal; *Col*: Collaborative Religious Coping; *Str*: Stress.

* $p < .10$; ** $p < .05$; *** $p < .01$.

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Hypothesis 2

Hierarchical regression analyses with secular coping subtests and religious coping subtests were conducted with each outcome variable for both time 1 and time 2. Using problem focused coping and collaborative religious coping at time 1, collaborative religious coping accounted for 21% (11% adjusted), $F(1, 15) = 3.88, p < .10$, of the variance for depression at time 2 and 39% (31% adjusted), $F(1, 15) = 8.55, p < .05$, of the variance for life satisfaction at time 2. Using these same two predictor variables at time 2, collaborative religious coping again predicted 28% (18% adjusted), $F(1, 15) = 5.22, p < .05$, of the variance for depression at time 2 and 37% (28% adjusted), $F(1, 15) = 8.12, p < .05$, of the variance for life satisfaction at time 2. Finally, using positive reappraisal and benevolent religious reappraisal at time 2, benevolent religious reappraisal accounted for 28% (19% adjusted), $F(1, 15) = 5.89, p < .05$, of the variance for life satisfaction at time 2. Collinearity diagnostics showed that all tolerance values were below 0.1, indicating that multicollinearity was not a concern. The Durban-Watson test was used to check for the independence of errors. This value remained between 1 and 3 for each analysis, thereby indicating that the errors were independent. Table 6 contains the regression analyses results.

Supplementary Analyses

Religious Orientation. Stepwise regression analyses were conducted using intrinsic and extrinsic religiosity. This procedure was done to further examine the relation between religiosity, depression, and life satisfaction. Results indicated that extrinsic religiosity at time 1 predicted 52% (49% adjusted), $F(1, 16) = 17.08, p < .01$, of the variance for life satisfaction at time 2. Again at time 2, it accounted for 43% (39%

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adjusted), $F(1, 16) = 11.82, p < .01$, of the variance for life satisfaction at time 2. Furthermore, intrinsic religiosity at time 2 predicted 28% (23% adjusted), $F(1, 16) = 6.08$, $p < .05$, of the variance for depression at time 2. Multicollinearity and independence of errors were checked using tolerance and the Durban-Watson test, respectively. Tolerance values did not exceed 1 and Durban-Watson values remained between 1 and 3. Thus, multicollinearity and the independence of errors were not biasing the regression models. Table 6 contains the results of all regression analyses.

Table 6

Hierarchical and Stepwise Regression Analyses of Religious Coping and Religious Orientation with Depression and Life Satisfaction as Outcome Variables

Predictor Variable	Outcome Variable	R^2	R^2 Adjusted	F	Beta	t	Tolerance	Durban-Watson
Collab 1	Depress2	.21	.11	3.88*	-.47	-1.97	.92	2.05
Collab 1	LifeSat2	.39	.31	8.55**	-.62	-2.92	.92	1.62
Collab 2	Depress2	.28	.18	5.22**	-.52	-2.29	.93	1.54
Collab 2	LifeSat2	.37	.28	8.12**	-.61	-2.85	.93	1.57
Benev 2	LifeSat2	.28	.19	5.89**	-.54	-2.43	.98	1.43
Extrins 1	LifeSat2	.52	.49	17.08***	-.72	-4.13	1.00	1.57
Extrins 2	LifeSat2	.43	.39	11.82***	-.65	-3.44	1.00	1.65
Intrins 2	Depress2	.28	.23	6.08**	-.53	-2.47	1.00	1.48

Note. Collab: Collaborative Religious Coping; *Benev*: Benevolent Religious Reappraisal; *Extrins*: Extrinsic Religious Orientation; *Intrins*: Intrinsic Religious Orientation; *Depress*: Depression; *LifeSat*: Life Satisfaction.

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

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Locus of Control. The final analysis examined the relation between locus of control and religious coping. Resulted showed a positive correlation at between locus of control at time 1 and religious coping at time 1, $r = .44, p < .05$, and religious coping at time 2, $r = .46, p < .10$. The next step in the analysis was intended to be a logistical regression between locus of control and religious coping. Although logistical regression should not be conducted given that there are not enough participants in the study to create low and high religious coping groupings, nevertheless, the procedure was carried out with the knowledge that results from the analysis are unreliable. A split-half procedure was done to create high and low religious coping categories. There were four scores in the high religious coping category at time 1 and two scores in the high religious coping category at time 2. No significant logistical regression results were found between locus of control and any of the religious coping subscales.

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Chapter IV

Discussion

The purpose of this study was to examine the relation between religious coping strategies and several outcome variables (depression, anxiety, self-esteem, and life satisfaction) among a group of first year university students. It was predicted that both secular and religious coping would be related to a reduction in anxiety and depressive symptoms, and related to an increase in self-esteem and life satisfaction. Furthermore, it was hypothesized that religious coping would predict lower levels of depression and anxiety, and higher levels of self-esteem and life satisfaction, over and above the effects of secular coping. Before discussing the results of the study, it is imperative to communicate the instability of these results due to the small sample size and inadequate power. Consequently, the results are unlikely to cross validate with another sample. Nevertheless, significant results may indicate a strong relation because the effect is evident despite the weak predictive ability (i.e., power) of the study.

The first hypothesis, stating that religious coping is positively correlated to life satisfaction and self-esteem and negatively correlated to depression and anxiety, was partially supported. Specifically, the findings showed that the religious coping scales of benevolent religious reappraisal and collaborative religious coping at time 1 were negatively correlated with life satisfaction and depression at time 2. Benevolent religious reappraisal at time 2 was negatively correlated with life satisfaction at time 2; collaborative religious coping at time 2 was negatively correlated to life satisfaction and depression at time 2. Although depression was inversely related to religious coping, life satisfaction was also inversely related to religious coping, which was not predicted. In

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other words, as the level of religious coping decreased, both depressive symptoms and life satisfaction scores increased. There were also several other irregular correlations involving depression. For example, at time 1, depression was inversely related to stress, and at time 2, depression was inversely related to anxiety. These negative correlations contradict the findings of other studies that show positive relations between depression, stress, and anxiety (e.g., Buddington, 2002; Friedlander, Reid, Shupak, & Cribbie, 2007; Kassel, Bornovalova, & Mehta, 2007; Lam, 2007).

One possible explanation for these conflicting findings is the issue of sample size. Given that there are only 18 participants, the scores of each participant has a large impact on the group scores and even one or two extreme scores could greatly influence the group mean. It is also possible that this sample is unique given that every participant scored in the clinically depressed range of the CES-D. Although it is not unusual for first-year students to struggle with depression during the adjustment period into university (Dyson & Renk, 2006), it is possible that the depressed affect of these participants influenced their response style.

Religious coping and depression. The second hypothesis was also only partially supported. That is, significant effects were found only for depression and life satisfaction at time 2. Specifically, secular coping scales of problem focused coping and positive reappraisal did not account for a significant amount of variance for either depression or life satisfaction at time 2. Conversely, collaborative religious coping at time 1 and time 2 predicted depression at time 2. In slight variation from previous studies in which increased religious coping predicted decreased depression (e.g., Koenig et al., 1992; Pargament et al., 2004), the findings in this study showed that decreased religious coping

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predicted increased depression. This alternate view of how religious coping and depression relate presents a unique layer of complexity, and provides extended support to the effectiveness of religious coping. Furthermore, collaborative religious coping at time 1 predicted depression at time 2, but did not predict depression at time 1. This finding suggests that the effects of religious coping on depression may not be immediately visible and highlights the importance of longitudinal designs in coping research in order to study the delayed effects of religious coping on depression.

Interestingly, unlike collaborative religious coping, the current study found that problem-focused coping did not predict depression levels, suggesting that there is a unique psychological process occurring with collaborative religious coping. The main distinction between these two methods of coping is that only collaborative religious coping involves active participation with God to work through stressful events (Pargament et al., 1988). This type of partnership typically involves building a personal relationship with God and working to maintain that partner relationship. Yet, in times of stressful transition periods, such as adjusting to university, the maintenance of the partner relationship may be neglected and/or damaged. The participants in the present study reported an overall decrease in religious coping between time 1 and time 2, perhaps suggesting that the transition to university had indeed disrupted this relationship. As a result, these students may have felt alienated or distant from God, leading to increased levels of depression.

Religious coping and life satisfaction. Although secular coping was not associated with life satisfaction, collaborative religious coping at time 1 and time 2, and benevolent religious reappraisal at time 2, predicted life satisfaction at time 2. Specifically, a

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decrease in these religious coping scales predicted an increase in life satisfaction. This inverse relation between religious coping and life satisfaction was counter hypothesis and contradicts the findings of previous studies (e.g., Ai et al., 2006; Tix & Frazier, 1998).

One possible reason for this finding may be due to the construct of well-being and how it relates to religious coping and life satisfaction. Whereas satisfaction with life is a measure of well-being and has been found to correlate with measures of happiness (Pavot & Diener, 1993; Vitterso, Diener, & Diener, 2005), the relation between well-being, happiness, and religious coping appears to be more complicated. For example, Lewis, Maltby, and Day (2004) investigated the relation between religious coping and happiness using two different measures of happiness: one measure tapped into subjective well-being, which is a state of balanced negative and positive affect, while the other measure of happiness tapped into psychological well-being, which is a long lasting ability to overcome challenges and feel fulfilled with one's life in general. The findings indicated that religious coping only predicted psychological well-being. Thus, the contradictory results of the current study may support the argument that religious coping has more influence on psychological well-being rather than life satisfaction, which is typically related to subjective well-being.

Many studies have demonstrated differences between religious coping and life satisfaction using the SWLS. Likewise, the current study measured life satisfaction using the SWLS, which is considered to be a subjective measure of intrapersonal life satisfaction (Sastre, Vinsonneau, Neto, Girard, & Mullet, 2003). As a result, it does not always correlate with trait-like variables or with interpersonal concepts like forgiveness (McCollough, Bellah, Kilpatrick, & Johnson, 2001; Neto & Mullet, 2004). In the past,

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religious coping has typically been conceptualized as a state-induced coping strategy whereby in the presence of stress, religious people are likely to use religious coping techniques (Bjorck & Cohen, 1993). However, more recently, Maynard, Gorsuch, and Bjorck (2001), have suggested that the type and amount of religious coping used appears to be more trait-dependent. Specifically, these authors found that individual trait differences, such as concepts of God and spiritual/religious investment, are related to the amount and type of religious coping used. Given this state/trait discrepancy, it is possible that religious coping and life satisfaction affect different aspects of mental health, which may partially explain why religious coping is inversely related to life satisfaction in the present study.

Depression and life satisfaction. Although both depression and life satisfaction significantly increased between time 1 and time 2, they did not significantly correlate with each other. This finding contradicts previous research that has found life satisfaction to be inversely related to depression in university student samples (Brink & Niemeyer, 1992; Chang, 2004; Dorahy, Schumaker, Simpson, & Deshpande, 1996; Hong & Giannakopoulos, 1994; Pilcher, 1998; Prelow, Mosher, & Bowman, 2006).

One explanation for this conflicting finding is that the associations between depression and life satisfaction may be more nuanced than previous research would suggest. For example, Heisel and Flett (2004) suggested that satisfaction with life may actually be a by-product of finding meaning or purpose in life. In a group of adults experiencing suicidal ideation, these authors found that the relation between satisfaction with life and suicidal ideation was mediated by finding purpose in life. Furthermore, results demonstrated that purpose in life moderated the relation between depression and

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suicidal ideation such that when depression was high, the perception of having a purpose in life became a protective factor against suicidal ideation. In this study, no interaction effect was found between depression and satisfaction with life. Given these findings, it may be that, similar to religious coping, depression taps into an internal, psychological well-being while satisfaction with life taps into an external, subjective well-being. This difference may partially explain the contradictory findings of the current study.

Another distinction between depression and satisfaction with life that could account for the discrepancy in these results is that depression, as measured by the CES-D, has domain specific items with emphasis on depressive affect (Radloff, 1977), while life satisfaction, as measured by the SWLS, appears to be a global measure of the cognitive process of mastery (see Bailey & Snyder, 2007). As defined by these items, it may be possible for someone to feel depressed, yet still evaluate his or her life as satisfactory.

Religious orientation. Further analysis of the initial regression results was conducted to explore the role of intrinsic and extrinsic religious orientations in predicting depression and life satisfaction. Regression analysis revealed that at time 1 and time 2, extrinsic religiosity predicted life satisfaction at time 2, while intrinsic religiosity at time 2 predicted depression at time 2. This distinction between intrinsic and extrinsic religious orientation allows for a better understanding of how different people approach their own religiosity. For example, people with high intrinsic religiosity tend to place religion as a main focus in life and they try to live by the creed of their religion, whereas people with extrinsic religious orientations tend to use religion as a tool to help them gain comfort and support (Allport & Ross, 1967).

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In a recent study looking at religious orientation, religious coping, and adjustment in missionaries, intrinsic religious orientation was negatively correlated with stress, depression, and anxiety, while extrinsic religiosity was positively related to stress and anxiety (Navara & James, 2005). Another study using a group of adults from the United Kingdom found that intrinsic religious orientation was inversely related to depression and anxiety, while extrinsic religious orientation was related to these variables in a positive direction (Maltby & Day, 2001). The results of the current study follow this same pattern in that intrinsic religious orientation was associated with decreased depression while extrinsic religious orientation was associated with decreased life satisfaction. These findings also lend support to the interpretation that depression influences more internal, psychological well-being, whereas life satisfaction is associated with external, subjective well-being.

In addition, the finding that extrinsic religiosity predicted lower life satisfaction and intrinsic religiosity predicted lower depression may be reflective of a particular theory of motivation: Self-Determination (Deci & Ryan, 1985). In this theory, motivation is conceptualized as a process of internalization that occurs on a continuum, with external motivation (reward system) on one end, and intrinsic motivation (motivation is integrated into sense of self) on the other end. In a meta-analysis of religiosity and mental health, Hackney and Sanders (2003) suggested that Self-Determination theory may explain the strength of the associations between religiosity and mental health. When dealing with institutional religiosity (extrinsic orientation), the findings of their study demonstrated weak associations between religiosity and mental health, but when dealing with personal devotion (intrinsic orientation), the associations were strong. Furthermore, only

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institutional religiosity had negative associations with mental health, although these associations were relatively weak. Thus, it appears that as religion becomes increasingly intrinsically motivated, its relation to mental health becomes stronger in a positive direction.

Religious orientation may also play a role in the developmental process of self-identity that occurs in late adolescence. As noted previously, 22% of participants in this study changed their definition of God between time 1 and time 2, and 33% changed their perception of what controls their future. This is not entirely surprising given that self-exploration and identity formation are still being shaped during late adolescents and early adulthood (Eriksson, 1968; Arnett, 2000). These young adults are in the process of forming, testing, and revising their identity in the face of new responsibilities, major life academic and career choices, major life-style changes, and intimate relationships. This transition is typically a period of time marked by high stress and requires a great deal of coping and adjustment (e.g., Kerr, Johnson, Gans, & Krumrine, 2004). A significant element of this self-identity formation process typically involves religious exploration (Hunsberger, Pratt, & Prancer, 2001). Allport (1960) suggests that intrinsic religious orientations are developed when there is integration of religion and identity, while extrinsic religious orientations occur when religious identity is fragmented and compartmentalized within the individual (as reported by Maclean, Walker, & Matsuba, 2004). The struggle to form a stable religious identity may affect the likelihood of successfully using religious coping during times of stress because religion may not yet be a secure source of comfort or guidance, making it a source of even more stress. This finding could explain why extrinsic religious orientation predicted decreased life

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satisfaction while intrinsic religious orientation predicted decreased depression in the present study.

The fluctuating religious beliefs about God and the future found in this study might have contributed to the inconsistent results. According to the Multivariate Belief-Motivation Theory of Religiousness developed by Schaefer and Gorsuch (1991), there are three main aspects of religiousness that must be examined in order to understand the function of religion in mental health: religious beliefs (concepts of God), motivation (intrinsic versus extrinsic), and problem-solving style (collaborative, deferring, and self-directed religious coping). When religious beliefs are not clearly identified, or when participants' religious beliefs are unstable, it is difficult to obtain a clear understanding of religiosity. In the current study, many participants changed their concept of God and the future, which likely affects the role religion plays in their lives and their approach to religious coping. Further research is necessary in order to compare religious coping practices between groups of people with different concepts of God.

Stress. The results regarding stress and coping revealed mixed and unexpected associations. There was an inverse relation between stress and positive reappraisal, and a positive relation between stress and social support. Furthermore, there was no relation between stress and religious coping. This is surprising given that the link between mental health and religious coping strategies appears to be most salient under conditions of high stress (Bickel et al., 1998). This non-significant finding may be the result of an insufficient measurement of stress. Stress was measured using a global measurement of perceived stress over the past month. However, viewing stress as either high or low may be over-simplistic and inadequate. Maltby and Day (2003) outline three categories of

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stress appraisals that may mediate the relation between religiosity and psychological well-being: challenge appraisal, threat appraisal, and loss appraisal (Lazarus & Folkman, 1985). In a sample of adults, they found that positive religious coping predicted unique variance in challenge appraisals, leading the participants to interpret the stressful situation as an opportunity to grow and increase psychological well-being. However, in a sample of college students, it was found that students used problem-focused coping more than religious coping in challenging situations, and religious coping was used most in appraisals of threat more than appraisals of loss or challenge (Bjorck & Cohen, 1993). Following this argument, it is possible that the participants in the present study view their stress as challenging instead of threatening, resulting in non-significant relations between stress and religious coping.

Locus of control. Closely related to stress is the concept of locus of control. High perceived stress has been associated with an external locus of control in police officers (Lester, 1982), student teachers (Sadowski & Blackwell, 1985), and university students (Abouserie, 1994). In two meta-analytic investigations, external locus of control in college students was associated with an inability to manage stress, lower grades, and depression (Twenge, Zhang, & Im, 2004). Nevertheless, the connection between locus of control, religious coping, and mental health is not quite as clear. For example, collaborative religious coping and benevolent religious reappraisal tend to be used in conjunction with each other (Pargament et al., 1988), yet benevolent religious reappraisal is typically used in uncontrollable situations (Spilka, Shaver, & Kirkpatrick, 1985) while collaborative religious coping appears to have mixed results regarding controllability (e.g., Tix & Frazier, 1998)

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The results of this study showed a positive relation between locus of control and religious coping such that as locus of control became increasingly external, religious coping also increased. This relation supports the findings that religious coping strategies tend to be used in uncontrollable situations (Bickel et al., 1998; Spilka, Shaver, & Kirkpatrick, 1985; Wong-McDonald & Gorsuch, 2004). However, this relation was not maintained at time 2, which is likely due to low power, but may also be a product of the participants' fluctuating views of God and who or what controls their future.

Limitations and Future Directions

As previously discussed, a limitation that greatly impacted this study was the small sample size. With 18 participants, correlation results lack external validity and therefore do not necessarily generalize to the first year university student population at the University of Windsor. Furthermore, the regression analyses used in this study violate the statistical guideline of having a minimum of 15 participants for every predictor variable in the regression (Stevens, 2002). Therefore, any inferences generated from the results of this study must be made cautiously and remain tentative until the results of this study are replicated using larger samples.

Another limitation of the sample used in this study is that, similar to most of the research done on religious coping, the majority of participants were Christian. Although individual religious beliefs were taken into consideration, there may be group differences regarding aspects of religiosity that were influencing religious coping but were not investigated. For instance, adjustment outcomes between Catholics and Protestants have been found to differ depending on religious orientation and the controllability of the stressor (Park, Cohen, & Herb, 1990). Similarly, a longitudinal study conducted by Tix

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and Frazier (1998) demonstrated that religious coping predicted higher life satisfaction for Protestants, but not for Catholics. Furthermore, research needs to be conducted using other religious populations, particularly those who do not conceptualize their Higher Power as a monotheistic or personal God, in order to better understand the connection between religious coping and mental health.

The research design of this study was set up such that students from the university participant pool could sign-up to participate for bonus marks. There are several limitations associated with this recruitment strategy. First, only the students already registered in the participant pool were eligible to participate in the study, which may serve as a sampling bias. Second, students view a list of possible studies to choose from. It is possible that those students particularly interested in religion were drawn to this study. Third, due to the separate testing sessions, there was an attrition rate of 35%. However, most students reported that the reason why they did not return for the second testing session was because they were not in need of another bonus mark. Therefore, the attrition appears to be related to the method of recruitment rather than directly related to the content of the study.

Additionally, the stressor used in this study was the challenge of adjusting to a new city while dealing with academic stress. This stressor was chosen due to many previous studies on religious coping that suggested future research be done using a uniform stressor that is presently taking place instead of asking participants to remember how they coped with stress in the past, or asking them to anticipate their coping strategies after reading a variety of vignettes. Although many participants reported relatively similar stress levels, there is no way of controlling the individual appraisals of this stress, nor is it

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possible to know the effects of other personal stressors that may have influenced the participants. This information is important considering the strong influence that stress appraisals (challenge, threat, loss) appear to have on religious coping and mental health (Maltby & Day, 2003). For example, many religious coping studies involve people facing a threat to their medical health or the loss of a loved one. In contrast, the participants in the present study are facing the challenges of adjusting to university life. The stress encountered in this adjustment period is likely quite different than the stress that would ensue due to problems surrounding health or death. Therefore, it is suggested that future studies take stress appraisals into consideration in order to obtain a more precise understanding of the dynamic between stress and coping.

In light of the variables discussed in this study, it is important that researchers incorporate stress appraisals and locus of control, along with a more in-depth investigation of religious beliefs and religious coping strategies. This would greatly enhance the Multivariate Belief-Motivation Theory of Religiousness developed by Schaefer and Gorsuch (1991). The results of the present study demonstrate the need to consider all of these variables when examining the psychological processes underlying religion's unique contribution to mental health.

Finally, there are limitations to the research design used in the present study. Although the study contains two testing sessions, the time interval between sessions was 4 to 5 months. Future studies should examine the connection between religious coping and mental health over a longer period of time. This is important because with cross-sectional studies, emphasis is placed on the relation between religious coping and outcome variables instead of the long-term coping process that takes place in times of

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stress. The main limitation of cross-sectional research is the direction of the relation between religious coping and mental health. For example, when results demonstrate an inverse relation between religious coping and life satisfaction, it cannot be determined whether the decrease in life satisfaction is occurring due to an increase in religious coping, or whether the decrease in life satisfaction has initiated an increase in religious coping strategies that will have positive or negative effects in the future. Initial support for the delayed effects of religious coping was potentially found in the present study because the religious coping strategies at time 1 only predicted outcome variables at time 2.

The methodological limitations surrounding cross-sectional research may be easier to avoid by conceptualizing religious coping through a process model rather than investigating religious coping outcomes. Butter and Pargament (2003) argue that coping cannot be evaluated solely on outcome variables, but also by the ability to match appropriate coping strategies with desired goals in an integrated coping process. The outcome of this process may vary at different stages depending on the level of integration between the stress appraisal, the coping response, and the desired outcome. Thus, it is suggested that future religious coping research assess the coping process as a measure of successful religious coping rather than emphasizing outcome variables (Butter & Pargament, 2003). This is particularly important in the clinical field because understanding the level of clients' coping process integration can be used as a tool for assessing and improving implementations of religious coping techniques.

Conclusion. The purpose of this study was to examine the effects of religious coping in university students adjusting to university life, and to compare these effects to

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secular coping. This study provides partial support that religion can be a helpful resource for coping in times of stress. It also demonstrates a unique association between religious coping and adjustment that does not occur through secular coping strategies. These findings have important practical applications. For those students who come to university with religious beliefs, it may be beneficial to maintain ties to their religion as part of their self-care management and adjustment process. It would be advantageous for universities to promote religious participation in students as part of their university experience. Furthermore, several studies have noted that many people struggling with personal issues often prefer to seek help from a religious leader rather than from a mental health professional (see Krasue, Ellison, Shaw, Marcum, & Boardman, 2001). This finding highlights the need for psychologists to be familiar and comfortable with the topic of religion. When dealing with religious clients, it is important to explore religious beliefs, motivations, and coping strategies during the assessment process. It is also important that psychologists understand how these factors affect mental health in order to improve treatment planning and enhance the therapy experience for the client. More research is needed in the field of religious coping and mental health so that psychologists are better equipped to handle religious issues within the therapy context.

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Appendix A

Demographics and Personal Information

Please respond to each item to the best of your ability.

1. Age: ________
2. Gender (circle): Female Male
3. Current academic program:
   ____
4. Current religious affiliation/denomination (please be as specific as possible):
   ____
5. Current living situation (please circle):

   House Apartment University residence Other (specify): _______________
6. How many roommates do you have? (circle): 0 1 2 3 4 more than 4
7. Have you ever lived on your own prior to moving to Windsor? (circle) Yes No
8. For the following items, circle the letter indicating the belief to which you subscribe most. Let the term "God" represent the Higher Power or Ultimate Reality of your understanding.

1. a) I believe that everyone is God
   b) I believe that God is the all-powerful, all-knowing, perfect creator that rules the world today.
   c) I believe that God is the total realization of personal, human potential.
   d) I believe that there are many gods, each with different power and authority.
   e) I believe that there is no such thing as God.

2. a) I believe there is an order to my life and to the world that is pre-ordained by God.
   b) I believe that destiny is fixed and it cannot be changed.
   c) I believe that I control my own future and that the state of the world is a product of conscious human decision.
   d) I believe that everything in my life and in the world is random and happens by chance.

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Appendix B

Intrinsic-Extrinsic Religiousness Scale-Revised (I/E-R)

Instructions: **Below is a list of 14 statements. Please indicate your agreement with each item by circling the appropriate number after each statement.**

For each question, choose from the following options:

1	2	3	4	5
Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**

1. I enjoy reading about my religion.	1	2	3	4	5
2. I go to my religious institution because it helps me to make friends.	1	2	3	4	5
3. It doesn't much matter what I believe so long as I am good.	1	2	3	4	5
4. It is important to me to spend time in private thought and prayer.	1	2	3	4	5
5. I have often had a strong sense of a Supreme Being's presence.	1	2	3	4	5
6. I pray mainly to gain relief and protection.	1	2	3	4	5
7. I try hard to live all my life according to my religious beliefs.	1	2	3	4	5
8. What religion offers me most is comfort in times of trouble and sorrow.	1	2	3	4	5
9. Prayer is for peace and happiness.	1	2	3	4	5
10. Although I am religious, I don't let it affect my daily life.	1	2	3	4	5
11. I go to my religious institution mostly to spend time with my friends.	1	2	3	4	5
12. My whole approach to life is based on my religion.	1	2	3	4	5
13. I go to my religious institution mainly because I enjoy seeing people I know there.	1	2	3	4	5
14. Although I believe in my religion, many other things are more important in life.	1	2	3	4	5

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Appendix C

Perceived Stress Scale (PSS)

Instructions: **The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.**

For each question, choose from the following alternatives:

0	1	2	3	4
Never	Almost never	Sometimes	Fairly often	Very often

Question					
1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you dealt successfully with irritating life hassles?	0	1	2	3	4
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?	0	1	2	3	4
6. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
7. In the last month, how often have you felt things were going your way?	0	1	2	3	4
8. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
9. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
10. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
11. In the last month, how often have you been angered because of things that happened that were outside of your control?	0	1	2	3	4
12. In the last month, how often have you found yourself thinking about things that you have to accomplish?	0	1	2	3	4
13. In the last month, how often have you been able to control the way you spend your time?	0	1	2	3	4
14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

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Appendix D

Abbreviated Locus of Control Scale (ALOC)

Instructions: **Each item in the list below contains two opposing statements labeled A or B. For each item, select the statement you agree with the most by placing either A or B on the line following the item. Once you have selected the statement, indicate how well the statement *reflects your beliefs* (circle either slightly closer or much closer). You may use a checkmark to indicate your choice. Remember, select only one statement for each item.**

1. **A** Many of the unhappy things in people's lives are partly due to bad luck
   B People's misfortunes result from the mistakes they make.

Statement I agree with most: ___________ slightly closer much closer

2. **A** The idea that teachers are unfair to students is nonsense.
   B Most students don't realize the extent to which their grades are influenced by accidental happenings.

Statement I agree with most: ___________ slightly closer much closer

3. **A** Without the right breaks, one cannot be an effective leader.
   B Capable people who fail to become leaders have not taken advantage of their opportunities.

Statement I agree with most: ___________ slightly closer much closer

4. **A** Becoming a success is a matter of hard work, luck has little or nothing to do with it.
   B Getting a good job depends mainly on being in the right place at the right time.

Statement I agree with most: ___________ slightly closer much closer

5. **A** What happens to me is my own doing.
   B Sometimes I feel that I don't have enough control over the direction my life is taking.

Statement I agree with most: ___________ slightly closer much closer

6. **A** In the case of the well-prepared student there is rarely if ever such a thing as an unfair test.
   B Many times exam questions tend to be so unrelated to course work that studying is really useless.

Statement I agree with most: ___________ slightly closer much closer

7. **A** In my case, getting what I want has little or nothing to do with luck.
   B Many times we might just as well decide what to do by flipping a coin.

Statement I agree with most: ___________ slightly closer much closer

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8. **A** Who gets to be boss often depends on who was lucky enough to be in the right place first.
   B Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.

Statement I agree with most: ___________ slightly closer much closer

9. **A** Most people don't realize the extent to which their lives are controlled by accidental happenings.
   B There is really no such thing as "luck."

Statement I agree with most: ___________ slightly closer much closer

10. **A** Sometimes I can't understand how teachers arrive at the grades they give.
    B There is a direct connection between how hard I study and the grades I get.

Statement I agree with most: ___________ slightly closer much closer

11. **A** Many times I feel that I have little influence over the things that happen to me.
    B It is important fro me to believe that chance or luck plays an important role in my life.

Statement I agree with most: ___________ slightly closer much closer

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Appendix E

Coping Inventory (COPE)

Instructions: **The following items deal with possible ways that you cope with moving to Windsor and beginning university. There are many ways to deal with problems. These items ask what you do or have done to cope with relocating and starting school. Obviously, different people deal with things in different ways, but we are interested in how you tried or are trying to deal with it. Each item says something different about a particular way of coping. We want to know to what extent you did what the item says (how much or how frequently). Do not answer on the basis of what works or not – just whether or not you did it. Try to rate each item separately in your mind from the other. Make your answers as true FOR YOU as you can.**

For each question, choose from the following options:

1	2	3	4
I usually don't do this at all	**I usually do this a little bit**	**I usually do this a medium amount**	**I usually do this a lot**

Item				
1. I take additional action to try to get rid of the problem.	1	2	3	4
2. I concentrate my efforts on doing something about it.	1	2	3	4
3. I do what has to be done, one step at a time.	1	2	3	4
4. I take direct action to get around the problem.	1	2	3	4
5. I try to come up with a strategy about what to do.	1	2	3	4
6. I make a plan of action.	1	2	3	4
7. I think hard about what steps to take.	1	2	3	4
8. I think about how I might best handle the problem.	1	2	3	4
9. I ask people who have had similar experiences what they did.	1	2	3	4
10. I try to get advice from someone about what to do.	1	2	3	4
11. I talk to someone to find out more about the situation.	1	2	3	4
12. I talk to someone who could do something concrete about the problem.	1	2	3	4
13. I talk to someone about how I feel.	1	2	3	4
14. I try to get emotional support from friends or relatives	1	2	3	4
15. I discuss my feelings with someone.	1	2	3	4
16. I get sympathy and understanding from someone.	1	2	3	4
17. I look for something good in what is happening.	1	2	3	4
18. I try to see it in a different light, to make it seem more positive.	1	2	3	4
19. I learn something from the experience.	1	2	3	4
20. I try to grow as a person as a result of the experience.	1	2	3	4

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Appendix F

Religious Coping Inventory (RCOPE)

Instructions: **The following items deal with possible ways that you can cope with moving to Windsor and beginning university. There are many ways to deal with problems. These items ask what you do or have done to cope with relocating and starting school. Obviously, different people deal with things in different ways, but we are interested in how you tried or are trying to deal with it. Each item says something different about a particular way of coping. We want to know to what extent you did what the item says (how much or how frequently). Do not answer on the basis of what works or not – just whether or not you did it. Try to rate each item separately in your mind from the other. Make your answers as true FOR YOU as you can. If you believe in a Higher Power, let the term Supreme Being represents that Higher Power.**

For each question, choose from the following options: How much or how frequently

0	1	2	3
Not at all	Once in a while	A medium amount	A great deal

1. Saw my situation as part of a Supreme Being's plan.	0	1	2	3
2. Tried to find a lesson from a Supreme Being in the event.	0	1	2	3
3. Tried to see how a Supreme Being might be trying to strengthen me in this situation.	0	1	2	3
4. Thought that the event might bring me closer to a Supreme Being.	0	1	2	3
5. Tried to see how the situation could be beneficial spiritually.	0	1	2	3
6. Tried to put my plans into action together with a Supreme Being.	0	1	2	3
7. Worked together with a Supreme Being as partners.	0	1	2	3
8. Tried to make sense of the situation with a Supreme Being.	0	1	2	3
9. Felt that a Supreme Being was working right along with me.	0	1	2	3
10. Worked together with a Supreme Being to relieve my worries.	0	1	2	3
11. Looked for spiritual support from religious leaders.	0	1	2	3
12. Asked others to pray for me.	0	1	2	3
13. Looked for love and concern from the members of my religious institution.	0	1	2	3
14. Sought support from member of my religious institution.	0	1	2	3
15. Asked religious leaders to remember me in their prayers.	0	1	2	3

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Appendix G

Center for Epidemiologic Studies Depression Scale (CES-D)

Instructions: **Below is a list of the ways you might have felt or behaved recently. Please tell me how often you have felt this way during the past week.**

For each question, choose from the following options:

1	2	3	4
Rarely or none of the time (less than 1 day)	**Some or a little of the time (1-2 days)**	**Occasionally or a moderate amount of time (3-4 days)**	**Most or all of the time (5-7 days)**

During the **past week**:

1. I was bothered by things that usually don't bother me.	1	2	3	4
2. I did not feel like eating; my appetite was poor.	1	2	3	4
3. I felt that I could not shake off the blues even with help from my family or friends.	1	2	3	4
4. I felt that I was just as good as other people.	1	2	3	4
5. I had trouble keeping my mind on what I was doing.	1	2	3	4
6. I felt depressed.	1	2	3	4
7. I felt that everything I did was an effort.	1	2	3	4
8. I felt hopeful about the future.	1	2	3	4
9. I thought my life had been a failure.	1	2	3	4
10. I felt fearful.	1	2	3	4
11. My sleep was restless.	1	2	3	4
12. I was happy.	1	2	3	4
13. I talked less than usual.	1	2	3	4
14. I felt lonely.	1	2	3	4
15. People were unfriendly.	1	2	3	4
16. I enjoyed life.	1	2	3	4
17. I had crying spells.	1	2	3	4
18. I felt sad.	1	2	3	4
19. I felt that people dislike me.	1	2	3	4
20. I could not get "going."	1	2	3	4

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Appendix H

Spielberger State Anxiety Inventory – Short Form (STAI-SF)

Instructions: **Using the scale indicated below, answer the following six questions according to how you feel right now, at this moment.**

1	**2**	**3**	**4**
Not at all	**Somewhat**	**Moderately**	**Very much**

1. I feel calm	1	2	3	4
2. I am tense	1	2	3	4
3. I feel upset	1	2	3	4
4. I am relaxed	1	2	3	4
5. I feel content	1	2	3	4
6. I am worried	1	2	3	4

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Appendix I

Rosenberg Self-Esteem Scale (SES)

Instructions: **Below is a list of 10 statements. Please indicate your agreement with each item by circling the appropriate number after each statement.**

For each question, choose from the following options:

1	2	3	4
Strongly agree	Agree	Disagree	Strongly disagree

Statement				
1. I feel that I am a person of worth, at least on an equal basis with others.	1	2	3	4
2. I feel that I have a number of good qualities.	1	2	3	4
3. All in all, I am inclined to feel that I am a failure.	1	2	3	4
4. I am able to do things as well as most other people.	1	2	3	4
5. I feel I do not have much to be proud of.	1	2	3	4
6. I take a positive attitude toward myself.	1	2	3	4
7. On the whole, I am satisfied with myself.	1	2	3	4
8. I wish I could have more respect for myself.	1	2	3	4
9. I certainly feel useless at times.	1	2	3	4
10. At times I think I am no good at all.	1	2	3	4

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Appendix J

Satisfaction With Life Scale (SWLS)

Instructions: **Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.**

1	2	3	4	5	6	7
Strongly disagree	**Disagree**	**Slightly disagree**	**Neither agree nor disagree**	**Slightly agree**	**Agree**	**Strongly agree**

_______ 1. In most ways my life is close to my ideal.

_______ 2. The conditions of my life are excellent.

_______ 3. I am satisfied with my life.

_______ 4. So far I have gotten the important things I want in life.

_______ 5. If I could live my life over, I would change almost nothing

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Vita Auctoris

Name:	Annunziata Tina Marcoccia
Place of Birth:	Windsor, Ontario
Year of Birth:	1981
Education:	Holy Names High School, Windsor, ON 1995-2000
	University of Windsor, Windsor, ON 2000-2004 B.A.(Hons.)
	University of Windsor, Windsor, ON 2005-2007 M.A. (currently enrolled in the Ph.D. program)

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