2018

Life Stress, Coping, Perceived Health, and Health Outcomes Among Eastern Orthodox

Athina-Eleni Goudanas Mavroudhis
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Athina-Eleni G. Mavroudhis

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Anthony Perry, Committee Chairperson, Psychology Faculty
Dr. Kimberley Cox, Committee Member, Psychology Faculty
Dr. Hannah Lerman, University Reviewer, Psychology Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2018

Abstract

Life Stress, Coping, Perceived Health, and Health Outcomes Among Eastern Orthodox Clergy

by

Athina-Eleni G. Mavroudhis

MS, Northeastern University, 2003

BA, Boston University, 2001

Dissertation Submitted in Partial Fulfilment

of the Requirements for the Degree of

Doctor of Philosophy

School of Psychology

Walden University

November 2018

Abstract

Clergy exhibit higher stress and mortality rates in relation to their nonclergy counterparts. Despite current research on clergy stress and mortality rates, health perceptions and health outcomes of Western religious oriented clergy have been understudied. Even less is known about health perceptions and health outcomes of Eastern religious oriented clergy. The role of stress, coping, and health perceptions in predicting actual health outcomes is important to study in clerical populations because of the impact their health might have on serving their parishioners. The purpose of this nonexperimental correlational study was to determine the relative strength of life stress, coping styles, health perceptions, age, and years in ministry in predicting clerical actual health outcomes (chronic disease). Self-regulation theory was used as the theoretical framework to better understand the relationship among these variables. A convenience sample of 129 Eastern Orthodox clergy across the United States completed an online survey. Ordinal logistic regression analysis was used to determine the relative strength of those variables in predicting actual health outcomes. The results of this study indicated that negative coping style and age were significant predictors of actual health outcomes (chronic disease). As levels of negative coping style and age increased, reports of chronic disease (e.g., cancer, diabetes, obesity, anxiety, and depression) also increased. Health professionals can use the results of this study to improve health outcomes and impact positive social change in clerical populations, which could increase the quality and stability of long-term spiritual care over time.

Life Stress, Coping, Perceived Health, and Health Outcomes Among Eastern Orthodox Clergy

by

Athina-Eleni G. Mavroudhis

MS, Northeastern University, 2003

BA, Boston University, 2001

Dissertation Submitted in Partial Fulfilment

of the Requirements for the Degree of

Doctor of Philosophy

School of Psychology

Walden University

November 2018

Dedication

This dissertation is dedicated to my mother, Anastasia, my father, Kyriacos, my sister, Vasiliki, my grandmother (“yiayia”), Eleni, and my grandfather (“papou”), Vasilios. Your limitless love and support made completion of this journey possible.

Acknowledgments

Foremost, I would like to give thanks to God for blessing me with this opportunity to earn such a prestigious degree. I also like to thank my dissertation chair, Dr. Anthony Perry for his motivational words, guidance and support during this period which immensely helped me to stay the course and complete the research. I would also like to thank my second committee members, Dr. Ellen Levine and Dr. Kimberly Cox for their feedback, guidance, and support during this process. I would also like to recognize the 129 Eastern Orthodox clergy that participated in this study, and the Eastern Orthodox Archdiocese for their support.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

In this study, I explored how life stress, coping styles (psychological and religious), and health perceptions (physical and mental) predict actual health outcomes, such as chronic disease in Eastern Orthodox Clergy using the self-regulation model as the theoretical framework. The association between stress, coping, and health perceptions is important in predicting actual health outcomes, including chronic disease (Wells, 2013). Actual health outcomes, such as chronic disease may spill over into clerical daily function (Doolittle, 2007). Clergy exhibit higher stress and mortality rates in relation to their nonclergy counterparts (Proeschold-Bell & LeGrand, 2012). Despite current research on clergy stress and mortality rates, health perceptions and health outcomes of Western religious oriented clergy have been understudied. Even less is known about health perceptions and health outcomes of Eastern religious oriented clergy (Proeschold-Bell & LeGrand, 2012; Trevino & McConell, 2014). Subsequently, the associations between stress, coping, and health are significant in clerical populations because of the impact they might have on serving their parishioners' spiritual, religious, and sociocultural needs.

In this study, I addressed this gap in the literature by examining which factors of stress, coping, and health perceptions predict actual health outcomes. To address this gap, I focused on Eastern Orthodox Clergy residing in the United States, as they have been identified as an under researched and understudied population experiencing high levels of chronic disease (Doolittle, 2007; Proeschold-Bell & LeGrand, 2012; Trevino &

McConnell, 2014). In this study, I provided insights into the relationship between stress, coping, and health, using self-regulation theory. This study was important because in a society in which chronic disease rates are escalating in clergy populations, the results shed light on which factors of stress, coping, and health perceptions may lead to issues in actual health outcomes such as chronic disease. This study allowed for a better understanding of how stress, coping, and health perceptions predict actual health outcomes, which will have social change implications for future research on how to mitigate those factors. Age and negative coping were determined to predict health outcomes in clergy, which impacts clerical daily function and their ability to provide spiritual support to parishioners. Thus, this study addressed the cyclical nature of stress, coping, and health perceptions that may lead to increased well-being in the clerical population and parishioners.

In this chapter, I review the background of the study and explain the problem statement and purpose. I provide the research questions and hypotheses along with the theoretical framework and nature of the study, which is discussed in more detail in Chapters 2 and 3. I also include a discussion of the operational definitions, assumptions, and scope and delimitation. Finally, I conclude with a discussion of the limitations and significance of the study.

Background

Researchers have shown how stress and coping impact health in clerical populations (Wells, 2012, 2013). Wells (2013) examined how age and time in ministry

predict clerical actual health outcomes. The researcher provided information on clergy age and time in ministry, which were found to be key predictors of health status outcomes. Older clergy who have been in the ministry longer exhibit more positive actual health outcomes in relation to their younger clergy counterparts (Wells, 2013). More positive actual health outcomes were defined as experiencing lower chronic disease rates and negative actual health outcomes were defined as experiencing higher chronic disease rates (Wells, 2012, 2013). Clergy who experienced more positive actual health outcomes were able to perform duties at a higher level with in their parish settings (Wells, 2012, 2013). This study contributes to the current research literature by assessing actual health outcomes in Eastern Orthodox Clergy residing in the United States.

Similarly, Trevino and McConnell (2014) examined how religious coping styles (positive and negative) impact health outcomes (chronic disease rates and daily function). Positive religious coping was defined as seeking God's presence during stressful scenarios, while negative coping was defined as rejecting God's presence during stressful scenarios (Trevino & McConnell, 2014). The researchers concluded that there is a relationship between religious coping styles and health outcomes, but further research must be conducted in order to identify gaps in the literature regarding the relationship between these two variables. This study contributed to the current literature by assessing the impact that religious coping styles have on actual health outcomes in Eastern Orthodox Clergy.

Masters and Knestel (2011) examined how religious coping styles (e.g., positive and negative religious coping) influence health outcomes, such as chronic disease. Positive and negative religious coping were identified as acceptance or rejection of God's presence, respectively (Masters & Knestel, 2011). The researchers determined a positive association between positive religious coping and health outcomes existed, indicating that higher levels of positive religious coping yield better health outcomes (lower chronic disease rates) and higher rates of daily function (Masters & Knestel, 2011).

Cutts, Gunderson, Proeschold-Bell, and Swift (2012) examined how health perceptions influence actual health outcomes in clerical populations residing in the United States. Health perceptions were defined as including both mental and physical health and actual health outcomes were defined as chronic disease rates (Cutts et al., 2012). The researchers found a disconnection between clergy health perceptions and actual health outcomes. This disconnect involved over or underestimation of health perceptions on actual health outcomes by the clergy involved. The researchers made the recommendation that further assessment between these two variables in clerical populations must be conducted in order to empirically address this gap in the literature.

Proeshold-Bell and LeGrand (2012) examined the relationship between health perceptions and actual health outcomes including chronic disease rates in clerical versus nonclerical populations. Clerical populations were defined as clergy who were parish leaders for a minimum of five years and nonclerical populations were defined as laymen. The researchers found that clergy had lower actual health outcomes than their nonclergy

counterparts, revealing higher chronic disease rates for clerical populations. Subsequently, clergy suffered from optimistic views on health perceptions, and often unrealistic to actual health outcomes. The researchers recommended further evaluation between clerical health perceptions and actual health outcomes in order to address this disconnection and gap in the literature (Proeschold-Bell & LeGrand, 2012).

Aldwin, Park, Jeong, and Nath (2014) addressed the lack of integrative theoretical models in literature about coping, including both psychological and religious coping styles. Psychological coping styles were defined as emotion-focused, problem-focused, and avoidance-oriented, while religious coping was defined as positive or negative (Aldwin et al., 2014). The researchers recommended an integrative theoretical model, such as self-regulation to be used in order to address the gap in the literature because the model addresses the influences of environmental cues and life stress on health outcomes.

In this present study, I added to the current literature in that I used self-regulation theory (Booker & Mullan, 2013) to improve the understanding of which aspects of stress, coping (psychological and religious), and health perceptions (mental and physical) predict actual health outcomes (chronic disease) in a known to be stressful and chronic disease-yielding vocation: Eastern Orthodox clergy residing in the United States.

Problem Statement

According to Wells (2013), determining the association between stress, coping, and health perceptions is important in predicting actual health outcomes. Health outcomes, including chronic diseases (e.g., cardiovascular disease, obesity, diabetes,

cancer, etc.) influence physical and emotional functioning in clerical populations (Doolittle, 2007). According to Proeschold-Bell and LeGrand (2012), clergy exhibit higher stress and mortality rates in relation to their nonclergy counterparts. Despite current research on clergy stress and mortality rates, health perceptions and health outcomes of Western religious oriented clergy have been understudied (Proeschold-Bell & LeGrand, 2012). Even less is known about health perceptions and health outcomes of Eastern religious oriented clergy (Trevino & McConell, 2014).

It is important to understand the relationship between stress, coping, and health because clerical health would impact job performance and effectiveness of serving parishioners. Wells (2013) indicated that clergy who have been in the ministry for an extended time period exhibit coping styles that yield greater positive actual health outcomes in relation to their younger clergy counterparts. Therefore, it was beneficial to assess the coping styles clergy possess that influence their actual health outcomes.

Although data have been collected in relation to clergy health outcomes, little is known about the impact that specific coping styles have on health perceptions and actual health outcomes in clergy (Proeschold-Bell & LeGrand, 2012). Proeschold-Bell and LeGrand (2012) found higher than average rates of obesity, diabetes, and blood pressure in clergy compared to nonclergy. Cutts et al. (2012) found that clergy exhibit higher chronic disease rates, including cardiovascular issues, diabetes, and obesity, than their nonclergy counterparts, with decreased perceived health issue awareness. Masters and

Knestel (2011) also found that positive religious coping is associated with healthier blood pressure levels.

A discrepancy between clerical health perceptions and actual health outcomes has been found (Preschold-Bell & LeGrand, 2012). Clergy exhibit favorable health perceptions that are inconsistent with their actual health outcomes. Increased understanding of the discrepancy between high clergy disease rates and health perceptions is needed in order to help identify the gap in the research literature (Proeschold-Bell & LeGrand, 2012). Doolittle (2007) found that problem-focused coping styles, including acceptance, active coping, planning, and positive reframing enhance clergy daily function and overall health outcomes including health conditions (chronic disease). However, emotion-focused and avoidant-oriented coping styles such as denial, substance use, humor, and religious coping have been understudied (Doolittle, 2007). Therefore, further assessment of these understudied coping styles (emotion-focused and avoidant-oriented coping) is needed to better understand the association between stress, coping, and actual clergy health outcomes, including health conditions (chronic disease). This study specifically examined the relationship between life stress, coping, and the presence of chronic disease among Eastern Orthodox clergy.

Purpose of the Study

In a society in which health outcomes significantly influence daily function, it is important to understand the relationships between the stressors of life, ways of coping, and perceptions of health. There is limited research about the relationship between life

stress, coping, health perceptions, and actual health outcomes among Eastern Orthodox clergy (Doolittle, 2007; Proeschold-Bell & LeGrand, 2012; Wells, 2013). The purpose of this study was to address a gap in the literature by examining whether stress, coping styles (psychological and religious) and health perceptions (perception of mental and physical health status) predict actual health outcomes (chronic diseases such as cardiovascular disease, diabetes, obesity, etc.). To address this gap, a quantitative assessment of the relationship between life stress, coping styles, perceived health, and actual health outcomes was conducted. With the results of this quantitative study, I have provided insights into the relationship between stress, coping styles, health perceptions, and actual health outcomes in Eastern Orthodox clergy residing in the United States using the self-regulation framework in determining which aspects of stress, coping styles (psychological and religious), and health perceptions predict health outcomes (Booker & Mullan, 2013).

Research Questions and Hypotheses

This quantitative study was designed to determine the relationship between stress, coping styles, and health perceptions on actual health outcomes among clergy. The research questions that were addressed and the specific hypotheses related to each included the following:

Research Question 1: To what extent does life stress, as measured by the Social Readjustment Rating Scale (SRRS; Homes & Rahe, 1967), relate to actual health

outcomes (chronic disease), as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$1: Life stress is not a significant predictor of actual health outcomes (chronic disease).

$H_1$1: Life stress is a significant predictor of actual health outcomes (chronic disease).

Research Question 2: To what extent does positive coping style, as measured by the Brief COPE Inventory, relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodoxy Clergy?

$H_0$2: Positive coping style is not a significant predictor of actual health outcomes.

$H_1$2: Positive coping style is a significant predictor of actual health outcomes.

Research Question 3: To what extent does negative coping style, as measured by the Brief COPE Inventory, relate to actual health outcomes (chronic disease), as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$3: Negative coping is not a significant predictor of actual health outcomes.

$H_1$3: Negative coping style is a significant predictor of actual health outcomes.

Research Question 4: To what extent does religious coping, as measured by the Brief Religious Coping (Pargament, Koenig & Perez, 2000), relate to actual health outcomes (chronic disease), as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$4: Religious coping is not a significant predictor of actual health outcomes (chronic disease).

$H_1$4: Religious coping is a significant predictor of actual health outcomes (chronic disease).

Research Question 5: To what extend does health perception, as measured by the SF-12 Health Survey (Ware, Kosinski, & Keller, 1996), relate to actual health outcomes (chronic disease), as measured by the Chronic Disease Self-Report Measure in Eastern Orthodox Clergy?

$H_0$5: Health perception is not a significant predictor of actual health outcomes (chronic disease).

$H_1$5: Health perception is a significant predictor of actual health outcomes (chronic disease).

Research Question 6: To what extent does age relate to actual health outcomes (chronic disease), as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$6: Age is not a significant predictor of actual health outcomes (chronic disease).

$H_1$6: Age is a significant predictor of actual health outcomes (chronic disease).

Research Question 7: To what extent does time in ministry relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure in Eastern Orthodox Clergy?

$H_0$7: Time in ministry is not a significant predictor of actual health outcomes (chronic disease).

$H_1$7: Time in ministry is a significant predictor of actual health outcomes (chronic disease).

The survey data were entered into the IBM Statistical Package for the Social Sciences (SPSS) software program for statistical analysis. The data were analyzed with descriptive statistics by using mean comparisons and percentages. Internal consistency reliability using Cronbach's coefficient alpha for the five instruments was reviewed (SRRS, Brief COPE, Brief RCOPE, SF-12, and Chronic Disease Self-Report Measure). Ordinal logistic regression analysis was used to determine the relative strength of each predictor variable (stress, psychological and religious coping, and health perceptions) in predicting the criterion variable of the actual health outcome score, reflecting chronic disease. There was one multiple regression analysis run on the entire data set.

Theoretical Framework

The literature about religious coping and health has increased but suffers from a lack of integrative theoretical models (Aldwin et al., 2014). According to de Ridder and de Wit (2006), health behaviors are subject to self-regulation because they involve the person as an active agent and draw on volitional processes of goal striving. For instance, are clergy actually self-regulating (choosing their own goals) or are they being regulated (following religious orders) when deciding to engage in healthier behaviors? Therefore, it is beneficial to consider this framework in assessing clergy adopted health perceptions that direct their behavior and actual health outcomes (de Ridder & de Wit, 2006). Consequently, application of the self-regulation theory aligns well with the goal of this

research study in better understanding the relationship between coping styles, health perceptions, and actual health outcomes among clergy (de Ridder & de Wit, 2006). Tougas, Hayden, McGrath, Huguet, and Rozario (2015) explored a self-regulation framework for chronic health condition interventions and health outcomes. Consistent use of self-monitoring, self-judgment, and self-evaluation were found to be predictors of lower rates of health conditions. Based on Tougas et al.'s (2015) meta-analysis, self-regulation theory is commonly applied to study the development of chronic health conditions and symptoms, as well as intervention effectiveness.

Booker and Mullan (2013) used the concept of self-regulation to examine the influences of environmental cues and life stress on health outcomes. Specifically, self-regulation influences healthy lifestyle maintenance. Participants who perceived environmental support, including social, communal, and intrapersonal networking, during stressful life events were significantly more likely to maintain a healthy lifestyle and better actual health outcomes. Given how coping styles may be influenced by one's environment, it would be beneficial to understand these perceptions among clergy using the self-regulation framework. Understanding the influences of coping styles and health perceptions on actual health outcomes through the self-regulation theory opens the door to many new research directions, including behavioral, emotional, and cognitive regulation among clergy and other populations of study.

Nature of the Study

The nature of this study was quantitative. The relationship between stress, coping, health perceptions, and actual health outcomes was assessed using a nonexperimental correlational design. In this design, I examined the relationships between variables; such a design is often used with survey research in which data is collected from a population at one specific time (Frankfort-Nachmias & Nachmias, 2008). I used a correlational design and employed the survey method. I used ordinal logistic regression to analyze the data. The survey method was the most efficient way to gather data from this large population.

Operational Definitions

Chronic disease health outcomes: A chronic condition is a human health condition or disease that is persistent or otherwise long-lasting in its effects or a disease that comes with time (at least three months), such as arthritis, cardiovascular disease, cancer, and obesity (Guyatt et al., 2008; Horn & Gassaway, 2007; Malterud, 2001; Ward & Black, 2016).

Stress: a state of emotional and mental tension or strain that results from very demanding and adverse circumstances (Gibbons, 2012). A stressor consists of experiential stimuli that escalate stress levels in an individual (Cohen et al., 1998). These stimuli are perceived as threatening or challenging to an individual's psychological or physical function. In the field of health psychology, scholar practitioners categorize stressors into four classifications consisting of major catastrophes or crises, major life

occasions, daily annoyances (microstressors), and ambient stressors (chronic and intractable, such as traffic and crowding) (Miller, Chen, & Cole, 2009).

Life stress: Life Stress consist of events or experiences that produce severe strain, such as vocational failure, marital dysfunction, and significant losses (Gibbons, 2012). Stress is experienced as a feeling of strain and pressure that can have negative impacts on functioning (Gibbons, 2012). Severe life stress over a period of time escalates the likelihood of heart-related ailments, ulcers, and mental health conditions, such as depression (Gibbons, 2012).

Crises and catastrophes: Crises, also referred to as catastrophes, are unforeseen and unpredictable stressors that are completely out of one's control (Miller, Chen, & Cole, 2009). Examples of crises and catastrophes include: devastating natural disasters, such as major floods or earthquakes, and wars. Though rare in occurrence, this type of stressor typically causes a great deal of stress in a person's life. Lopez-Vazquez and Marvan (2003) found that individuals experience increases in stress levels after natural disasters.

Major life events: Major life events contribute to stress level effects. Major life events, such as attending college, marriage, birth of a child, divorce, and significant losses, are common occurrences (Gibbons, 2012). These positive or negative events influence one's perception of stress and stress level fluctuation (Lopez-Vazquez & Marvan, 2003).

Daily hassles and microstressors: Daily hassles and microstressors are daily annoyances and minor hassles which impact stress levels and overall function. Daily hassles and microstressors, such as decision-making, deadlines, traffic, and dealing with difficult people are common occurrences (Gibbons, 2012). These stressors include interpersonal encounters and challenges, influencing relationship dynamics with family, peers, and community members (Gibbons, 2012; Lopez-Vazquez & Marvan, 2003).

Psychological conflicts that cause stress: Three main psychological struggles causing fluctuations in stress levels are approach-approach conflict, avoidance-avoidance conflict, and approach-avoidance conflict (Pastorino & Doyle-Portillo, 2009). The approach-approach conflict occurs when an individual is choosing between two equally attractive options; the avoidance-avoidance conflict occurs when an individual has to choose between two equally unattractive options; and the approach-avoidance conflict occurs when an individual is forced to choose whether or not to partake in something that has both attractive and unattractive traits (Pastorino & Doyle-Portillo, 2009).

Ambient stressors: Ambient stressors are global (as opposed to individual) low-grade stressors that are a part of the background environment such as pollutants and noise. They are prolonged, undesirably esteemed, non-urgent, physically distinguishable, and inflexible to the individual exertions of modification (Snyder & Lefcourt, 2001).

Clerical stress: Clerical stress consists of stress that clergy experience specifically throughout their ministry (Wells, 2012). This is a subset of life stress. Clergy are formal religious leaders whose roles and functions vary in relation to different religious tradition

denominations. Clerical roles involve presiding over specific rituals and teaching religious doctrines and practices to parishioners (Wells, 2012; Wells, 2013). Furthermore, dealing with the problems posed by parishioners is where much clerical stress occurs. Clergy have been found to be ill-equipped to deal with various mental health disorders found within their communities, resulting in increased personal stress levels (Chevalier et al., 2015).

Coping styles: Coping entails investing individual conscious effort, to solve personal and interpersonal problems, in order to try to master, minimize or tolerate stress and conflict (Weiten & Lloyd, 2008).

Psychological coping: Psychological coping mechanisms are adaptive coping strategies used to reduce stress and are influenced by genetic predispositions, personality (habitual traits), socialization, and conditioning (Carver & Connor-Smith, 2010).

Religious coping: Religious coping is religiously framed cognitive, emotional, or behavioral responses to stress, encompassing multiple methods and purposes as well as positive and negative dimensions (Pargament, 1997; Pargament, Smith, Koenig & Perez, 1998).

Health perceptions: Perceived health refers to the perception of a person's health in general, either by the person themselves or, in the case of proxy response, by the person responding (U.S. Department of Health & Human Services, 2008). Health is identified as not only the absence of disease or injury but also physical, mental and social welfare. Subsequently, perceived health is a subjective measure of overall health status

(U.S. Department of Health & Human Services, 2008). Factors that may contribute to differences in perceived health include age, sex, education, income, and the individual's psycho-social characteristics (Idler & Benyamini, 1997; Shields & Shooshtari, 2001).

Clerical health perceptions: Clerical health perceptions seem to involve over or underestimations of actual health outcomes (Cutts et al., 2012). Clerical health perceptions are inconsistent with their actual rates of chronic disease, such as diabetes, cardiovascular disease, obesity, anxiety and depression (Proeschold-Bell & LeGrand, 2012). Clergy exhibit optimistic view of their health perceptions, unrealistic to their actual health outcomes (Proeschold-Bell & LeGrand, 2012).

Assumptions

There are a number of assumptions relevant for this study. Assumptions that I made in this study were:

1. I assumed the subjects completing the survey answered honestly. A statement reminding the subjects about the importance of this survey and scientific integrity was assumed to have a positive effect on the honesty of the participants.
2. It was assumed the subjects completing the survey carefully read and understood the items as they are written and that their answers reflected what the item intended to measure.
3. I assumed the SRRS, Brief COPE Inventory, Brief Religious COPE Inventory, SF-12, and Chronic Disease Self-Report Measure measured what they purported to measure. All reliability and validity information is presented in Chapter 3.

4. I assumed the Eastern Orthodox Clergy Database provided updated information regarding Eastern Orthodox Clergy residing in the United States. This was the best database to use to collect data from my desired population.
5. It was assumed that while I used participants from various Eastern Orthodox denominations (e.g., Albanian, Antiochian, Bulgarian, Greek, Romanian, and Russian) they were similar in that they were all Eastern Orthodox clergy and were found to be susceptible to stress and chronic disease.

Scope and Delimitations

The scope of this study was on stress, coping, health perceptions, and actual health outcomes using the self-regulation framework. However, to discuss actual health outcomes, one must also discuss chronic diseases, such as cardiovascular disease, diabetes, obesity, depression and anxiety. Similar to actual health outcomes, which are not frequently used terms in psychologically oriented research, one must also cover health perceptions and how they are impacted by stress and coping styles. Furthermore, how those relationships are affected if the clergy is married, has children, a spiritual father, and the size of their parish, may affect the relationship. I chose to focus on only Eastern Orthodox Clergy, who are married and have parish sizes averaging between 250 to 300 parish families, since research overwhelmingly shows that married men are both mentally and physically healthier, outliving their single male counterparts (Robles, Slatcher, Trombello, & McGinn, 2014). According to Krindatch (2011), approximately

80% of Eastern Orthodox clergy residing in the United States are married with parish sizes ranging between 250 to 300 parish families.

It was difficult to choose where to draw the lines in this study, as there are many variables related to stress, coping, and health. It is difficult to talk about life stress without also talking about stress in general, so the literature review covers both. I also found it important to choose a direction of stress and coping: life stress and psychological and religious coping styles. I found it would be too exhaustive and too wide in scope to include all of the coping styles (including Freud's defense mechanisms). Finally, there is very little research available that involves the term "religious coping." Therefore, the literature review also included research pertaining to positive and negative religious coping styles and psychological coping, including problem-focused, avoidant-oriented, and emotion-focused (Carver & Connor-Smith, 2010; Folkman & Lazarus, 1988; Pargament, Smith, Koenig & Perez, 1998)

The delimitations in this study stem from the selection of participants in the Eastern Orthodox Archdiocese residing in the United States. The participants came from a number of Eastern Orthodox parishes in the United States. To participate in this study, they needed to work full-time as an Eastern Orthodox clergy and have been in this vocation for at least five years. Individuals who did not fulfill those characteristics were excluded from the study. While it was not possible for the participants to be randomly chosen, participants came from a wide range within the Eastern Orthodox population and

thus, the findings have limited generalizability to Eastern Orthodox and non-Eastern Orthodox oriented clergy across the United States.

Limitations

There were many threats to validity considered in this study. One of the most important threats to validity considered was the sampling of participants. Because I used a convenience sample, my participants were not obtained by random sampling. This was a threat to validity because non-random samples have lower validity than random samples (Frankfort-Nachmias & Nachmias, 2008). I did, however, attempt to collect data from a wide range of Eastern Orthodox Clergy so that my data was generalizable. Generalizability adds external validity to a study, which helps balance the threat to validity that the non-random sample would impose (Frankfort-Nachmias & Nachmias, 2008). An additional sampling threat is that I only had access to one online database, which was the Eastern Orthodox Database. My participant population only came from online participation, as opposed to hard copy or face-to-face participants. Therefore, the findings may not to be generalizable to all Eastern Orthodox clergy, but only those who were comfortable with online surveys.

There were also threats to internal validity. Based on the questionnaires, participants may have realized what I was attempting to study, and thus, testing might have led to inaccurate results. If participants realized that I was looking to study their health quality and quantity of chronic health diseases, they might have fabricated their answers or told me what they thought I wanted to hear. Eastern Orthodox clergy are

thought to have unrealistic health perceptions and are often distrusting of secular research, which may have caused them not to want to take a survey (Krindatch, 2011). In addition, Eastern Orthodox clergy have been found to not be open, which may have caused them not to want to complete the surveys and questionnaire that they might find personal (Krindatch, 2011). In addition, Eastern Orthodox clergy often exhibit more favorable personal perceptions of themselves, which may have caused them to deny their own stress, overemphasized religious coping styles and therefore inaccurately completed the survey responses or answered them in a way that made them look good and were not truthful (Krindatch, 2011).

Another threat to validity was being able to draw clear, accurate conclusions. It is sometimes difficult to draw causal relationships in quasi-experimental designs, such as correlational designs (Frankfort-Nachmias & Nachmias, 2008). This was a known limitation to using correlational design, however, this design was most appropriate to my research.

A final threat to validity was that participants may have felt stress from other aspects of their life, just as much as they did from life stress, or even more so. My study was focused on three variables that may be related to actual health outcomes (including chronic disease): life stress, coping styles, and health perceptions. There were a number of variables that may have led to actual health outcomes (chronic disease), but I only studied three of them. In this study, I found age and negative coping styles to be significant predictors for actual health outcomes in the sampled clergy population.

Significance

In this study, I addressed a gap in the literature by examining which factors of life stress, coping styles, and health perceptions predicted actual health outcomes. This study was unique in that I researched an area of health-related stress and coping that has not been studied in the manner of my study. That is, I attempted to understand how the various dimensions of stress, coping (psychological and religious), and health perceptions (mental and physical), predicted actual health outcomes (chronic disease). This study was important because, in a society in which spiritual leaders are experiencing significant chronic health diseases, the findings shed light on which factors influence chronic disease that lead to issues in actual health outcomes, such as chronic disease rates. The results of the study indicated age and negative coping styles as significant predictors to actual health outcomes in the sampled clergy population. As such, there are implications for further research on how we may mitigate those factors; such as negative coping styles among this population.

This research study has the potential to create positive social change. The findings indicated that certain known stressors, coping styles, and health perceptions may have unforeseen actual health outcome influences. It was determined that certain types of life stress, coping, and health perceptions lead to actual health outcomes (chronic disease), which means that utilizing various coping styles (psychological and religious) can lead to an impact on actual health outcomes (especially chronic disease rates), which has implications for clergy, parishes, and parishioners. Thus, addressing the cyclical

nature of stress, coping, health perceptions, and actual health outcomes may lead to increased well-being in society: physically, emotionally, and psychologically.

Summary

In Chapter 1, I reviewed the purpose of the study, which was to examine how stress, coping, and health perceptions predict actual health outcomes, such as chronic disease. I also discussed the background, problem statement, and the purpose of the study. While research has been done separately on life stress, coping styles, health perceptions, and health outcomes, no researchers have concurrently examined all predictors of actual health outcomes in relation to chronic disease rates in clergy. I also described the five research questions, the theoretical framework, and the nature of the study. The significance and limitations were discussed as well.

In Chapter 2, I provide a thorough review of the current literature pertaining to stress, coping, health perceptions, and actual health outcomes, as well as how these variables were associated with clerical populations. In addition, life stress and clerical populations and their relationship with overall health perceptions and the effects of stress that spillover from one domain into another, such as actual health outcomes and chronic disease, are included as well. Chapter 2 also includes a detailed review of the relevant literature regarding the clerical life stress, coping styles (positive, negative, and religious), health perceptions (physical and psychological) and actual health outcomes (chronic disease).

Chapter 2: Literature Review

Information about the relationship between high clergy chronic disease rates when compared to nonclerical counterparts exists. However, only a limited number studies of Eastern Orthodox clergy that have explored the phenomenon of health perceptions and actual health outcomes are available. The majority of researchers have assessed health perceptions and actual health outcomes in relation to optimistic views on clergy health. Even though there is emerging evidence that stress may affect actual health outcomes in clerical populations, further study in relation to coping styles and health perceptions was needed (Proeschold-Bell & LeGrand, 2012).

Chapter 2 included an overview of the relationship between stress, coping, and health in clergy, which was the purpose of this quantitative investigation. The literature review followed, was directed by a search to assess how health perceptions and actual health outcomes were related to stress and coping.

This chapter began with a discussion of the literature establishing a link between clerical stress levels and actual health outcomes. It went further to discuss the importance of the coping styles exhibited as precursors to chronic disease rate manifestations. I continued the discussion by examining age and time in ministry for coping styles, health perceptions, and actual health outcomes. In the literature review, I summarized the essential features of life stress, coping styles, and health perceptions, in relation to the actual health outcomes that have been studied, including cardiovascular disease, obesity, diabetes, depression, and anxiety, with emphasis placed on effectiveness of coping styles

in combating stressors experienced in daily clerical life. In the literature I also examined the theories, limitations, and relationship to age and time in ministry in relation to stress, coping, and health.

Literature Search Strategy

A computerized search strategy was implemented using ERIC, PsychARTICLES, PsychINFO, Sage, SocINDEX, and Health and Psychosocial Instruments databases. A review of related research was conducted that sourced seminal literature on coping styles, life stressors, health outcomes, and religious coping, survey instruments, and peer reviewed articles on the clergy population that spanned from 1983 to present. This literature review helped to inform this study. The following search terms were applied: *life stress, coping styles, religious coping, health perceptions, health outcomes, chronic diseases, clergy stress, clergy coping, clergy health, clergy disease, physical health, emotional health,* and *self-regulation theory*.

Theoretical Foundation

This research was based on the theoretical foundation of self-regulation theory, which has been extensively used to study health outcomes. Self-regulation provided adequate support for the hypothesis that coping styles influence health outcomes (Muraven & Baumeister, 2000; Vohs & Ciarocco, 2004). However, researchers have offered some clues on the strength and direction of this relationship. It is increasingly recognized that a strong relationship is present between health outcomes and clergy coping styles, including psychological (problem-focused, avoidance-oriented, emotion-

focused) coping and religious coping (Aldwin et al., 2014). There is a need for an integrative theoretical model such as self-regulation to be used when assessing psychological and religious coping styles and health (Aldwin et al., 2014).

Self-Regulation Theory

Self-regulation theory (SRT) is a system of conscious personal management that involves the process of guiding one's own thoughts, behaviors, and feelings to reach goals (Muraven & Baumeister, 2000). Self-regulation consists of several stages, including forethought, performance control and self-reflection in which individuals must function as contributors to their own motivation, behavior, and development within a network of reciprocally interacting influences (Muraven & Baumeister, 2000). The four components in SRT include: standards of desirable behavior, motivation to meet standards, monitoring of situations and thoughts that precede breaking said standards, and lastly, willpower (Vohs & Ciarocco, 2004).

Sickness behavior as assessed by self-regulation theory consists of four components: (a) standards of desirable behavior, (b) motivation to meet standards, (c) monitoring of situations, and (d) thoughts that precede breaking standards, and willpower, or the internal strength to control urges (Muraven & Baumeister, 2000). Sickness behavior is a coordinated set of adaptive behavioral changes that develop in ill individuals during the development of an illness and disease (Kelley et al., 2003). These adaptive behavioral changes aid in an individual’s survival. Such illness responses include lethargy, depression, anxiety, loss of appetite, sleepiness, hyperalgesia, reduction

in grooming, and failure to concentrate (Kelley et al., 2003). These adaptive behavioral changes develop during an illness and are superseded by the positive in the best cases. Sickness behavior consists of a motivational state that includes organismic prioritization of coping with infectious pathogens and is relevant in understanding various chronic disease sufferance of individuals affected with cancer and depression (Dantzer, 2009).

Researchers have determined that the strength model is generally supported, because only a given amount of self-regulation can occur until that resource is depleted (Vohs & Ciarocco, 2004). Moreover, SRT can be applied to impulse control and the management of short-term desires as well. According to Vohs and Heatherton (2000), individuals with low impulse control are prone to acting on immediate desires. This is one route for such individuals to find their way to jail as many criminal acts occur in the heat of the moment. For nonviolent individuals it can lead to losing friends through careless outbursts, or financial problems caused by making too many impulsive purchases (Vohs & Heatherton, 2000). Individuals exhibiting higher rates of impulse control have higher rates of self-regulation.

SRT is also applied to the cognitive bias known as illusion of control. To the extent that individuals are driven by internal goals concerned with the exercise of control over their environment, they will seek to reassert control in conditions of chaos, uncertainty, or stress (Vohs, Baumeister, & Ciarocco, 2005). Failing genuine control, one coping strategy would be to fall back on defensive attributions of control—leading to

illusions of control (Fenton-O'Creevy, Nicholson, Soane, & Willman, 2003). SRT is also applied to goal attainment, motivation, and sickness behavior (Aldwin et al., 2014).

SRT consists of several stages, referred to as forethought, performance control and self-reflection. First, the individual deliberately monitors his or her own behavior, and evaluates how this behavior affects his or her health. If the desired effect is not realized, the individual changes his or her personal behavior. If the desired effect is realized, the individual reinforces the effect by continuing the behavior (Vohs, Baumeister, & Ciarocco, 2005). Another approach is for the individual to realize a personal health issue and understand the factors involved in that issue. The individual must decide upon an action plan for resolving the health issue. The individual will need to deliberately monitor the results in order to appraise the effects, checking for any necessary changes in the action plan. (Aldwin et al., 2014). Various factors assist personal health goal attainment. For example, raising awareness on personal and community views of overall health, appraising risks involved, and enhancing problem-solving abilities and coping skills, can increase personal health goal attainment (Baumesiter, Vohs, & Tice, 2007).

Health behaviors are subject to self-regulation because they involve the person as an active agent who draws on volitional processes of goal striving (de Ridder & de Wit, 2006). According to Tougas et al. (2015), SRT is commonly applied to study development of chronic health conditions and symptoms, and intervention effectiveness, in relation to standards (of desirable behavior), motivation (to meet standards),

monitoring (of situations and thoughts that precede breaking standards), and willpower (internal strength to control urges). Self-regulation is used to examine the influences of environmental cues and life stress on health outcomes (Booker & Mullan, 2013). Self-regulation was used in the present study as the framework for examining the influences of stress, coping, and health perceptions on actual health outcomes (chronic disease) in Eastern Orthodox Clergy.

Chronic Disease Health Outcomes

According to Guyatt et al. (2008), health outcomes involve a change in health status. Furthermore, health outcomes are evaluated against the norms of certain group demographics, such as age, race, and ethnicity, with respect to different expectation outcomes contingent upon conditions. In contrast, Malterud (2001) reports that health outcomes are the result of interventions (or lack of), rather than simply change over time. In its purest form, measurement of health outcomes implies identifying the context (diagnosis, demographics etc.), measuring health status before an intervention is carried out, measuring the intervention, measuring health status again and then plausibly relating the change to the intervention (Horn & Gassaway, 2007).

A chronic condition is a human health condition or disease that is persistent or otherwise long lasting in its effects or a disease that develops over time (Ward & Black, 2016). The term chronic is often applied when the course of the disease lasts for more than three months. Common chronic diseases include arthritis, asthma, cancer, COPD, diabetes and viral diseases such as hepatitis C and HIV/AIDS. A chronic course is further

distinguished from a recurrent course in which recurrent diseases relapse repeatedly with periods of remission in between (Ward & Black, 2016).

In the United States, 25% of adults have at least two chronic conditions (Ward & Black, 2016). Chronic diseases constitute a major cause of mortality, with the World Health Organization (WHO) attributing 38 million deaths a year to non-communicable diseases (World Health Organization, 2015). According to Braveman, Cubbin, Egerter, Williams, and Pamuk (2010), chronic diseases generally cannot be prevented by vaccines or cured by medication, nor do they just disappear. Eighty-eight percent of Americans over 65 years of age have at least one chronic health condition (Braveman, et al, 2010). Health damaging behaviors, including tobacco use, lack of physical activity, and poor eating habits, are major contributors to the leading chronic diseases (Ward & Black, 2016).

Chronic diseases rates increase with aging. The leading chronic diseases in developed countries include arthritis, cardiovascular disease such as heart attacks and stroke, cancer such as breast and colon cancer, diabetes, epilepsy and seizures, obesity, and oral health problems (World Health Organization, 2015). Subsequently, each of these conditions has a negative impact on daily functioning in older adults in the United States and in other developed nations (World Health Organization, 2015).

Arthritis

Arthritis and related conditions are the leading cause of disability in the United States, affecting nearly 43 million Americans (World Health Organization, 2015).

Although cost-effective interventions are available to reduce the burden of arthritis, they are underused. Regular, moderate exercise offers a host of benefits to people with arthritis by reducing joint pain and stiffness, building strong muscle around the joints, and increasing flexibility and endurance (Ward & Black, 2016).

Cardiovascular Disease

Cardiovascular disease is a growing concern in the United States and is the nation's leading cause of death (World Health Organization, 2015). Three health-related behaviors, including tobacco use, lack of physical activity, and poor nutrition contribute markedly to increased heart disease rates (Center for Disease Control and Prevention, 2016). Modifying these behaviors is critical for both preventing and controlling heart disease. Modest changes in one or more of these risk factors among the population could have a profound public health impact (Center for Disease Control and Prevention, 2016).

Cancer

Cancer is the second most common cause of death in the United States (Center for Disease Control and Prevention, 2016). Cancer is largely controllable through prevention, early detection, and treatment; reducing the nation's cancer burden requires reducing the prevalence of the behavioral and environmental factors that increase cancer risk (Center for Disease Control and Prevention, 2016). It also requires ensuring that cancer screening services and high-quality treatment are available and accessible, particularly to medically underserved populations (Cancer for Disease Control and Prevention, 2016). Lung and bronchial cancer is the first leading cause of cancer-related deaths in the US accounting

for 25% of all cancer deaths (Cancer for Disease Control and Prevention, 2016). Subsequently, colorectal cancer is the second leading cause of cancer-related deaths in the US, accounting for 10% of all cancer deaths. The risk of developing both lung and colorectal cancer increases with advancing age. Lack of physical activity, low fruit and vegetable intake, a low-fiber diet, obesity, alcohol consumption, and tobacco use may contribute to the risk for lung and colorectal cancer. Flexible sigmoidoscopy, colonoscopy, and the fecal occult blood test (FOBT) are screening tools widely accepted and used to detect colorectal cancer in its earliest stages, when treatment is most effective. In 1999, 66% of Americans aged 50 years or older reported not having had a sigmoidoscopy or colonoscopy within the last five years, and 79% reported not having had a fecal occult blood test within the last year (Center for Disease Control and Prevention, 2016).

Chronic Disease Health Outcomes Among Clergy

Clergy exhibit higher chronic disease rates, such as obesity, cardiovascular disease, diabetes, and cancer, when compared to nonclergy peers. Proeschold-Bell and LeGrand (2010) assessed the prevalence of obesity and chronic disease diagnoses among United Methodist clergy. Proeschold-Bell and LeGrand calculated body mass index categories, such as underweight, normal weight, overweight, and obese and compared the obesity diagnosis prevalence rates with nonclergy. The obesity rate among clergy aged 35-64 years was 39.7%, 10.3% higher than their nonclergy peers. Clergy also reported significantly higher rates of having ever been given diagnoses of diabetes, arthritis, high

blood pressure, angina, and asthma compared to their nonclergy peers. Health interventions that address obesity and chronic disease among clergy are urgently needed (Proeschold-Bell & LeGrand, 2010).

Doolittle (2007) found that chronic disease health outcomes influence physical and emotional functioning in clerical populations. United Methodist clergy have higher than average self-reported rates of obesity, diabetes, asthma, arthritis, and hypertension (Proeschold-Bell & LeGrand, 2012). Health interventions tailored to addressing clergy chronic diseases are urgently needed in treating actual health outcomes, including cardiovascular disease, diabetes, obesity, and cancer (Proeschold-Bell & LeGrand, 2012).

Clergy suffer from chronic disease rates that are higher than those of nonclergy (Cutts et al., 2012). Clergy have more negative actual health outcomes than nonclergy counterparts while maintaining optimistic views about their health (Proeschold-Bell & Legrand, 2012). Determining the association between stress, coping, and health perceptions is important in predicting actual health outcomes, including chronic health conditions (Wells, 2012, 2013).

The association between stress, coping, and health is significant in clerical populations because of the impact it might have on serving their parishioners (Wells, 2012; Wells, 2013). Despite current research on clergy stress and mortality rates, health perceptions and health outcomes of Western religious oriented clergy have been understudied (Proeschold-Bell & LeGrand, 2012). Even less is known about health perceptions and health outcomes of Eastern religious oriented clergy (Trevino &

McConell, 2004). It would be beneficial to assess the coping styles clergy possess that influence their actual health outcomes (Wells, 2012; Wells, 2013).

Life Stress

Stress is experienced as a feeling of strain and pressure, which can have negative impacts on functioning (Gibbons, 2012). Minimum stress amounts are desirable, beneficial, and even healthy. Constructive stress enhances athletic performance and enhances environmental adaptation, motivation, and reaction to improve functioning (Sapolsky, 2004). Contrastingly, excessive stress amounts lead to physical and psychological impairment. Stress increases cardiovascular disease risks, as well as various psychological conditions, including depression (Gibbons, 2012). Stress can be externally related to certain environment conditions, but may also be internally created through one's perceptions, causing anxiety and other negative emotions surrounding a circumstance to surface. This surfacing of anxiety in turn creates emotional reactions of feeling pressured or uncomfortable, leading to a stressful response (Sapolsky, 2004).

According to Schneiderman, Ironson, and Siegel (2005), there is a link between acute and chronic stress and illness. Both stress types influence behavioral and physiological fluctuations, which can lead to decreased immune system function and increased disease susceptibility risk (Ogden, 2007). Sapolsky (2004) reported that individuals experience stress or perceive things as threatening when they do not believe that their resources for coping with obstacles (stimuli, people, and situations) are enough for what the circumstances demand. Subsequently, when individuals think that the

demands being placed on their person exceeds their personal ability to cope, the perception of stress is experienced.

Symptomatology associated with excessive acute or sustained stress may include cognitive impairments (Spitzer & Burke, 1993). Cognitive impairments, such as decreases in attention span, memory, and decision-making skills negatively impact overall emotional and physical health. In addition, emotional reactions such as anger, irritability, guilt, fear, paranoia, and depression escalate with chronic life stress, negatively impacting daily psychosomatic function. Subsequently, physical complications, including fatigue, dizziness, migraine headaches, high blood pressure, diabetes and cancer, are somatic manifestations of sustained life stress (De Boer, Lok, Verlaat, Duivaenvoorden, Bakker, & Smit, 2011; Spitzer & Burke, 1993). Additionally, chronic life stress triggers self-destructive and antisocial behavior and negatively impact physical and emotional functioning (Spitzer & Burke, 1993). Consequently, psychosomatic symptoms can vary depending on social factors, such as trauma severity, amount of social support, and additional life stresses (De Boer et al., 2011)

Chronic life stress and insufficient resources for coping can lead to various psychological issues such as anxiety and depression (Schlotz, Yim, Zoccola, Jansen, & Schulz, 2011). Chronic stressors are not as intense as acute stressors (e.g., natural disasters, major accidents, etc.) but are persistent over extended periods of time, leading to particular detriment to one's overall health and well-being (Pinquart & Sorensen, 2003). These types of stressors tend to have a more negative effect on health because

they are sustained and thus require the body's physiological response to occur daily. This depletes the body's energy more quickly and usually occurs over long periods of time, especially when these micro stressors cannot be avoided (Pinquart & Sorensen, 2003). Additionally, Calderon, Schneider, Alexander, Myers, Nidich, and Haney (1999) suggested that stress directly contributes to high rates of coronary heart disease morbidity and mortality and its etiologic risk factors. Specifically, acute and chronic stress, and raised serum lipids are associated with clinical coronary events (Calderon, et al., 1999).

Types of Stress

A stressor consists of an experience, occurrence, or environmental provocation that escalates an individual's stress levels (Cohen, Frank, Doyle, Skoner, Rabin, & Gwaltney, 1998). These experiences are perceived as threatening or challenging the physical and psychological individual's well-being. Calderon, Schneider, Alexander, Myers, Nidich, and Haney (1999) found that stressors enhance one's susceptibility to psychological and physical ailments, such as anxiety and cardiovascular disease, respectively. Chronic stressors, perceived as being highly disruptive to daily function and uncontrollable are more likely to affect an individual's health (Cohen et al., 1998). In the field of health psychology, scholar practitioners classify different stressors into four classifications, consisting of crises and catastrophes, major life events, daily hassles and micro stressors, and ambient stressors (Miller, Chen, & Cole, 2009).

Crises and Catastrophes

Crises (also referred to as catastrophes) are unforeseen and unpredictable stressors that are out of the individual's control (Miller, Chen, & Cole, 2009). Examples of crises and catastrophes include: devastating natural disasters, such as major floods or earthquakes, and wars. Though rare in occurrence, this type of stressor typically causes a great deal of stress in a person's life. Lopez-Vazquez and Marvan (2003) found that postnatural disasters, impacted individuals experience significant increases in stress levels.

Major Life Events

Major life events contribute to stress level effects. Examples of major life events, such as attending college, marriage, childbirth, divorce, and losses are common occurrences throughout the lifespan (Gibbons, 2012). These positive and negative events influence perception of stress and stress level fluctuation (Lopez-Vazquez & Marvan, 2003). The length of time since occurrence and whether or not it is a positive or negative event are factors in whether or not it causes stress and how much stress it causes. According to Gibbons (2012), major life events having occurred within a month time period are not linked to stress-induced illness. Contrastingly, chronic events having occurred over several months are linked to stress-induced illness and personality fluctuations (Gibbons, 2012; Lopez-Vazquez & Marvan, 2003). Additionally, positive life events are typically linked to trivial stress (daily low-grade stressors), while negative life events are linked to stress-induced health issues (Gibbons, 2012). Interestingly,

positive experiences and life modifications predict reductions in neurotic tendencies, thus enhancing emotional stability and decreasing impulsivity (Miller, Chen, & Cole, 2009).

Daily Hassles and Micro stressors

Daily hassles and micro stressors are daily annoyances and minor hassles that impact stress levels and overall function. Daily hassles and micro stressors, such as decision-making, deadlines, traffic, and dealing with difficult people, are common occurrences (Gibbons, 2012). These stressors include interpersonal encounters and challenges, influencing relationship dynamics with family, peers, and community members (Gibbons, 2012; Lopez-Vazquez & Marvan, 2003). Daily stressors are experienced differently in relation to variances across individual perceptions in accordance with stressful circumstances. For example, public speaking is perceived as highly stressful by many individuals whereas a seasoned politician would not refer to this experience as stressful (Gibbons, 2012; Lopez-Vazquez & Marvan, 2003).

Psychological Conflicts that Cause Stress

Three main psychological conflicts cause stress levels to fluctuate. According to Pastorino and Doyle-Portillo (2009), approach-approach conflict, avoidance-avoidance conflict, and approach-avoidance conflict are experienced throughout different stages of life. The approach-approach conflict occurs when an individual is choosing between two equally attractive options (e.g., whether to go see a movie or to go see a concert). The avoidance-avoidance conflict occurs when an individual has to choose between two equally unattractive options (e.g., to take out a second loan with unappealing terms to pay

off the mortgage or to face foreclosure on one's house). Lastly, the approach-avoidance conflict occurs when an individual is forced to choose whether or not to partake in something that has both attractive and unattractive traits, such as whether or not to attend an expensive college (meaning taking out loans now, but also meaning a quality education and employment after graduation; Pastorino & Doyle-Portillo, 2009). All of these psychological conflicts escalate life stress levels, negatively impacting daily function.

Ambient stressors

Ambient stressors are global (as opposed to individual) low-grade stressors that are a part of the background environment. They are prolonged, undesirably esteemed, non-urgent, physically distinguishable, and inflexible to the individual exertions of modification (Snyder & Lefcourt, 2001). Examples of ambient stressors include environmental pollution, traffic, crowding, and noise. Ambient stressors are unique in that unlike other types of stressors, they have an impact on stress levels without conscious awareness. Therefore, these particular stressors are considered to be low in perceptual salience, and rarely have significant impact on individual stress levels (Snyder & Lefcourt, 2001).

Clerical Stress

Clergy are official entities who take on leadership roles and whose function fluctuates in accord with the different roles required by the various religious denominations. The roles of clergy involve chairing over spiritually and religiously-

oriented customs and enhancing parishioner's knowledge of doctrine and practices (Wells, 2012; Wells, 2013). According to Chevalier, Goldfarb, Miller, Hoeppner, Gorrindo, and Birnbaum (2015), clergy are not properly equipped to address their parishioners' psychological ailments, which in turn, escalates clerical stress levels.

Wells (2013) indicated that there is a relationship between stress and health in the clerical profession. Wells (2012) determined that there is a positive relationship between two different sources of stress in the clerical profession (work-related stress and boundary-related stress). According to the World Health Organization (2015), work-related stress, also referred to as occupational stress, is the adverse reaction individuals have to excessive pressures or other types of demands placed on them at work. According to Hill, Darling, and Raimondi (2003), boundary-related stressors (commonly experienced by clergy and clergy families) include issues surrounding time, mobility, congregational fit, space, isolation, and intrusions. In order to cope with these boundary-related stressors, clergy and their families must use a variety of coping methods to buffer the impact of boundary intrusions.

Wells reported that African-American and obese clergy exhibited lower levels of physical health as stress increased. Clergy with children and those with higher levels of education exhibited lower levels of emotional health as stress increased. African-American clergy consistently exhibited higher levels of emotional health than their White colleagues did. Finally, age and length of time in ministry are associated with higher levels of emotional health but lower physical health status (Wells, 2013).

Clergy represent a salient group in Western communities, providing a variety of services aimed at supporting diverse members of those communities, which might contribute to enhanced clerical stressors (Parker & Martin, 2011). Clergy exhibit higher stress and mortality rates in relation to their nonclergy counterparts (Proeschold-Bell & LeGrand, 2012). Parish-based clergy exhibit higher rates of burnout and enhanced stress levels, due to inadequate coping style development in dealing with daily vocational stress levels (Doolittle, 2007). United Methodist clergy exhibiting higher stress levels, report experiencing role ambiguity and role conflict when dealing with parishioner problems and are ill-equipped in coping with daily parishioner stress (Faucett, Corwyn, & Poling, 2013).

Stress, Health, and Disease

The theoretical constructs of stress, health, and disease have been empirically studied throughout the emergence of the field of health psychology. According to Reynolds (2008), there is likely a connection between stress and illness. Theories of the stress–illness link suggest that both acute and chronic stress can cause illness (Schneiderman, Ironson, & Siegel, 2005). According to stress-illness link theories, both categories of stress lead to variations in physiological and behavioral manifestations. Behavioral manifestations include alterations in eating habits, physical activity, and smoking. Physiological manifestations include alterations in immunological function through changes in sympathetic and hypothalamic pituitary adrenocorticoid activation

(Herbert & Cohen, 1993). Subsequently, the stress and illness link does contain much variability (Ogden, 2007).

Stress escalates individual susceptibility to various physical ailments, such as cold and flu symptoms. Subsequently, stressful events, such as career and vocational modifications, may lead to sleep impairments (e.g., insomnia, hypersomnia, etc.) and increases in health grievances (Ogden, 2007). According to Reynolds (2008), the type of stressor (whether it is acute or chronic) and individual characteristics such as age and physical wellbeing before the onset of the stressor can combine to determine the effect of stress on an individual. Subsequently, an individual's personality characteristics (such as level of neuroticism), genetics, and childhood experiences with major stressors and traumas may also dictate his or her response to stressors (Jeronimus, Ormel, Aleman, Penninx, & Riese, 2013).

Depression and anxiety are two psychological issues than can develop as a result of lacking appropriate coping resources in dealing with chronic stress (Reynolds, 2008). These are stressors that may not be as intense as an acute stressor such as a natural disaster or a major accident, but they persist over longer periods of time (Miller, Chen, & Cole, 2009). These types of stressors tend to have a more negative impact on health because they are sustained and thus require the body's physiological response to occur daily. This depletes the body's energy more quickly and usually occurs over long periods of time, especially when these micro stressors cannot be avoided (e.g., stress of living in a dangerous neighborhood). For example, researchers have found that caregivers,

particularly those of dementia patients, have higher levels of depression and slightly worse physical health than noncaregivers (Pinquart & Sörensen, 2003).

Kemeny (2003) suggested that perceived chronic stress is associated with much higher risks of cardiovascular disease. This occurs because of the compromised immune system as well as the high levels of arousal in the sympathetic nervous system that occur as part of the body's physiological response to stressful events. However, it is possible for individuals to exhibit hardiness, referring to the ability to be both chronically stressed and healthy. Many psychologists are currently interested in studying the factors that allow hardy individuals to cope with stress and evade most health and illness problems associated with high levels of stress (Kingston & Schuurmans-Stekhoven, 2016).

According to Cohen, Janicki-Deverts, and Miller (2007), individuals who experience chronic stress are at higher risk of experiencing perpetual deviations to their physical and psychological responses, potentially leading to disease susceptibility. Chronic stress results from stressful events that persist over a relatively long period of time, such as caring for a spouse with dementia, or results from brief focal events that continue to be experienced as overwhelming long after they are over, such as experiencing a sexual assault (Jeronimus, Riese, Sanderman, & Ormel, 2014).

Cohen, Janicki-Deverts, and Miller (2007) suggested that individuals experiencing acute stressors, exhibit an adaptive improvement of natural immunity indicators but a suppression of specific immunity functions. Contrastingly, individuals experiencing chronic stress, exhibit a biphasic immune response where fractional cellular

and humoral suppression function coincides with low-grade, nonspecific inflammation, escalating chronic disease rates (Cohen, Janicki-Deverts, & Miller, 2007; Jeronimus, et al., 2014). Examples include higher susceptibility to cold, flu, infection, and chronic disease, such as cardiovascular illness.

There is a connection between stress and illness (Reynolds, 2008). Theories of the stress–illness link suggest that both acute and chronic stress can cause illness due to changes in behavior and physiological functioning (Schneiderman, Ironson, & Siegel, 2005). Behavioral deviations include alterations in eating habits, physical activity, and smoking. Physiological deviations include alterations in immunological function through sympathetic and hypothalamic pituitary adrenocorticoid activation (Herbert & Cohen, 1993; Ogden, 2007). Stress enhances individual susceptible to physical ailments, such as cold and flu indicators. Subsequently, an individual's genetic predisposition (e.g., genetics, temperament, and personality characteristics with respect to neuroticism level) and environmental conditioning (e.g., childhood experiences, major stressors and traumas) influence stress responses (Jeronimus, Ormel, Aleman, Penninx, & Riese, 2013). Chronic stress and a lack of coping resources available or used by an individual can often lead to the development of psychological issues such as depression and anxiety (Reynolds, 2008). Chronic stress is the result of persistent and relatively long-term stressful events. Chronic stress can also develop from brief specific occurrences that are continuously experienced as overwhelmingly long and stressful postoccurrence (Jeronimus et al., 2014).

Coping Styles

Coping has been extensively studied in relation to resiliency and dealing with internal and external distressing stimuli (Weiten & Lloyd, 2008). Coping entails investing individual conscious effort to solve personal and interpersonal problems in order to try to master, minimize or tolerate stress and conflict (Weiten & Lloyd, 2008). In this literature review, I examined various studies in relation to psychological and religious coping styles in both the general population as well as clergy residing in the United States.

Psychological Coping

Psychological coping mechanisms are commonly termed coping strategies or coping skills. The term coping generally refers to adaptive (constructive) coping strategies. Coping specifically refers to strategies that reduce stress. In contrast, other coping strategies may be coined as maladaptive if they increase stress. Maladaptive coping is therefore also described, when looking at the outcome, as non-coping. Furthermore, the term coping generally refers to reactive coping, the coping response that follows the stressor. This differs from proactive coping, in which an individual exhibiting a coping response that aims to neutralize a future stressor. Subconscious or non-conscious strategies (e.g., defense mechanisms) are generally excluded from the area of coping. The effectiveness of the coping effort depends on the type of stress, the individual, and the circumstances (Carver & Connor-Smith, 2010). Coping responses are partly controlled by personality (habitual traits), but also partly by the social

environment, particularly the nature of the stressful environment (Carver & Connor-Smith, 2010).

Various coping strategies have been identified, including positive and negative coping styles (Folkman & Lazarus, 1988). Carver's (1997) Brief COPE Inventory is extensively employed by various researchers and clinicians to assess positive and negative coping styles (Bose, Bjorling, Elfstrom, Persson, & Saboonchi, 2015). When positive coping style is employed, also referred to as adaptive behavioral coping, an individual is able to reduce or eliminate a particular stressor when appropriate. Subsequently, when positive coping style is employed, an individual is able to change their personal emotional reactions so as to decrease emotional response to a specific unchanging stressor. Contrastingly, when negative coping style is employed, individuals avoid a particular stressor, often leading to denial, which can lead to pathology when employed consistency (Folkman & Lazarus, 1988).

Individuals using positive coping strategies try to deal with the cause of their problem. They do this by finding out information about the problem and learning new skills to manage the problem. Positive coping is aimed at changing or eliminating the source of the stress. The three problem-focused coping strategies (that fall under the positive coping style category) include: taking control, information seeking, and evaluating the pros and cons (Folkman & Lazarus, 1988).

Individuals exhibiting positive coping show a negative correlation with burnout symptoms and individuals exhibiting negative coping show a positive correlation with

burnout. Burnout is a specific type of job stress that leads to mental, emotional, and physiological exhaustion while enhancing self-doubt of one's work quality, competence, and value (Grosch & Olsen, 2000). Seeking social support, reappraisal, and religious coping among positive coping strategies have been found to be negatively related to burnout symptoms (Shin et al., 2014). Positive coping, including acceptance, active coping, planning, and positive reframing, enhance clergy daily function and overall health outcomes, including health conditions. Negative coping styles (e.g., denial, self-blame, and substance use), humor, and religious coping, have been understudied and need to be better understood in assessing the relationship between stress, coping, and actual clergy health outcomes, such as chronic diseases (Doolittle, 2007).

Positive and negative coping styles are identified using Carver's (1997) Brief COPE Inventory (Folkman & Lazarus, 1988). Positive coping style reduces or eliminates a particular stressor when appropriate and modifies personal emotional reactions so as to decrease the emotional response to a specific unchanging stressor. Negative coping avoids a particular stressor, often leading to denial and self-blame, which can lead to pathology when employed consistency (Folkman & Lazarus, 1988).

Religious Coping

There is a growing body of research on religious coping utilization during major life events and stressors and its implications for health (Pargament, Smith, Koenig, & Perez, 1998). Religious coping is religiously framed cognitive, emotional, or behavioral responses to stress, encompassing multiple methods and purposes as well as positive and

negative dimensions (Pargament, 1997). Religious coping deals with stressors (which may be a consequence of illness) in a religious manner, such as prayer, congregational support, pastoral care, and religious faith (Pargament, 2007). Positive patterns of religious coping consist of religious forgiveness, seeking spiritual support, collaborative religious coping, spiritual connection, religious purification, and benevolent religious reappraisal. Negative patterns of religious coping consist of spiritual discontent, punishing God reappraisals, interpersonal religious discontent, demonic reappraisal, and reappraisal of God's powers (Pargament, 2007).

Positive religious coping strategy has positive effects on physical and emotional disorders, referred to as religion-induced analgesia while negative religious coping has a negative effect on physical and emotional disorders (Jegindo et al., 2013). Religiousness has a beneficial relationship to blood pressure; specific aspects of religiousness that interact with physiological mechanisms of influence require further study (Pargament, 2007). A complicated interface between personality, coping, and religious motivation in response to stressors exists, emphasizing the need for further naturalistic and longitudinal investigations of religious coping styles (Masters & Knestel, 2011).

Negative religious coping, including extrinsic religiousness and belief in a punishing God, are associated with increases in undermining both physical health and emotional adjustment in both clerical and non-clerical populations (Jordan, Masters, Hooker, Ruiz, & Smith, 2014). Positive religious coping enhances quality of life in individuals struggling with cardiovascular disease and cancer (Masters & Hooker, 2013).

There is a positive relationship between religious coping and physical health, which needs to be further identified and understood (Trevino & McConnell, 2014).

Religious coping deals with stressors in a religious manner, such as prayer, congregational support, pastoral care, and religious faith (Pargament, 2007). Positive patterns of religious coping consist of religious forgiveness, seeking spiritual support, collaborative religious coping, spiritual connection, religious purification, and benevolent religious reappraisal. Negative patterns of religious coping consist of spiritual discontent, punishing God reappraisals, interpersonal religious discontent, demonic reappraisal, and reappraisal of God's powers (Jegindo et al., 2013; Masters & Knestel, 2011; Pargament, 2007; Trevino & McConnell, 2014).

Clerical Coping Styles

Various studies have been conducted on how clergy cope with various stressors and the particular coping styles employed (Asamoah, Osafo & Agyapoing, 2014; Wells, 2012; Wells, 2013). Pentecostal clergy exhibit a diabolical explanatory model of mental health instead of the biomedical perspective in dealing with parishioner emotional and physical issues. The diabolical explanatory model indicates that health issues are addressed by conducting exorcisms and enhancing social support. This type of coping escalates personal stress levels (Asamoah, Osafo, & Agyapoing, 2014). Clergy who have been in the ministry for an extended time period exhibit coping styles such as problem-focused and emotion-focused coping, that yield greater positive actual health outcomes in

relation to their younger clergy counterparts (Wells, 2013). Therefore, age and time in ministry are key predictors to clergy health status outcomes (Wells, 2012; Wells, 2013).

Health Perceptions

Perceived health refers to the perception of a person's health in general, either by the person his or herself or, in the case of proxy response, by the person responding (U.S. Department of Health & Human Services, 2008). On the other hand, health is identified as not only the absence of disease or injury but also physical, mental and social welfare (U.S. Department of Health, 2008). Perceived health is a subjective measure of overall health status. Individuals' self-assessment of their health may include aspects that are difficult to capture clinically, such as incipient disease, disease severity, physiological and psychological reserves, and social function (U.S. Department of Health & Human Services, 2008). Researchers have demonstrated that self-assessment is a reliable and valid measure associated with functional decline, morbidity and mortality (Idler & Benyamini, 1997; Shields & Shooshtari, 2001). Perceived health is often more effective than clinical measures for predicting help-seeking behaviors and health service use. Perceived health is a relative measure. Evidence collected by researchers suggests that people assess their health in relation to their circumstances, expectations and their peers (Idler & Benyamini, 1997). In addition to physical health and health behaviors, factors that may contribute to differences in perceived health include age, sex, education, income, and psycho-social characteristics (Shields & Shooshtari, 2001).

Compared with men, women tend to consider a broader set of factors when rating their overall health. They are more likely to consider the presence of non-life-threatening illness and psychological factors (Benyamini, Leventhal, & Leventhal, 2000). When people rate their health, they think not only of their current situation, but also of trajectories, declines and improvements (Idler & Benyamini, 1997). According to Ramage-Morin (2006), individuals with a very strong sense of community belonging had much higher odds of reporting excellent or very good perceived health, compared with those whose sense of community belonging was weak, even when other potentially confounding factors were taken into account (age, sex, marital status, socio-economic factors, chronic conditions, employment status, geographical location). Among institutionalized seniors, perceived health was associated with mortality. Over a six-year period, those with positive self-perceived health were less likely to die than were those with more negative perceptions, even when age, sex and the presence of chronic conditions were taken into account (Benyamini, Leventhal, & Leventhal, 2000).

Clerical Health Perceptions

A disconnect between clergy health perceptions and actual health outcomes has been found. This disconnect involves over or underestimation of health perceptions on actual health outcomes (Cutts, Gunderson, Proeschold-Bell, & Swift, 2012). Clerical views about their own personal health are inconsistent with their actual rates of chronic disease, such as diabetes, cardiovascular disease, obesity, anxiety, and depression (Proeschold-Bell & LeGrand, 2012). Furthermore, clergy exhibit optimistic views of their

physical health functioning, unrealistic to their actual health outcomes (Proeschold-Bell & LeGrand, 2012).

Summary

In this chapter, I reviewed the current pertinent research literature related to stress, coping, health perceptions, and actual health outcomes. And, I presented the various theories related to stress, coping, self-regulation, and health. I also covered research related to different types of coping styles, including psychological and religious in relation to chronic disease manifestations. I examined the literature most pertinent to assessing the relationship between life stress, coping styles (psychological and religious), health perceptions (physical and mental) and actual health outcomes (chronic disease, such as cardiovascular, diabetes, anxiety, and depression). Stress and coping impact health outcomes in clerical populations (Wells, 2012, 2013). Wells (2013) reported that determining the association between stress, coping, and health perceptions is important in predicting actual health outcomes. A positive association between positive religious coping and health, yielding lower chronic disease and enhanced daily function, was found (Masters & Knestel, 2011). Subsequently, a disconnection between clerical health perceptions and actual health outcomes was found, as members of the clergy seem to over or under estimate these factors (Cutts, Gunderson, Proeschold-Bell & Swift, 2012). The literature revealed that clergy have higher chronic disease rates than their non-clerical counterparts (Proeschold & LeGrand, 2012). Health perceptions and health outcomes among Western religious oriented and especially Eastern religious oriented

clergy have been understudied. In addition, little is known about the impact that specific coping styles have on health perceptions and actual health in clerical populations.

To address the gap in the literature, I conducted a study to examine whether stress, coping, and health perceptions predict actual health outcomes (chronic disease). Further in-depth exploration was warranted to examine the link between stress, coping, and health using multiple regression analysis. In Chapter 3, I provide information on how this quantitative survey study was performed, the identification of participants, measurement instruments, and details of the research methodology.

Chapter 3: Research Method

This research study was designed to investigate the relationship between stress, coping styles, and health perceptions on actual health outcomes among clergy. In this chapter, I describe the approach and process that I used to conduct the study. In the participant section, I provide a detailed explanation of the characteristics of the participants and the sampling technique. In the instrumentation section, I present an in-depth description and rationale of the measurement tools used to collect the data. Finally, I describe the process by which the data was collected and analyzed.

Research Design and Rationale

In this nonexperimental correlational study, I used ordinal logistic regression analysis to evaluate the relative strength of several predictor variables, including stress, coping styles, and health perceptions on the criterion variable, actual health outcomes. Correlational designs can be defined as a type of descriptive quantitative research that consists of the examination of potential relationships between variables (Leedy & Ormrod, 2010). In accord with Creswell (2009), I used this research approach to use scientific methods to increase understanding of various phenomena by using numbers in measuring constructs and testing hypotheses. According to Simon (2006), correlational studies examine variables in their natural environments and do not include researcher-imposed treatments.

Electronic survey instruments were used to gather data from participants and ordinal logistic regression analysis was implemented to test the hypotheses and answer

the research questions. The predictor variables included life stress, coping styles (psychological and religious), and health perceptions (mental health and physical health). The criterion variable was the actual health outcome score that reflects chronic disease. The predictor variables and criterion variable were measured by using five surveys: the Social Readjustment Scale (Holmes & Rahe, 1967), Brief COPE Inventory (Carver, 1997), Brief Religious Coping Inventory (Pargament, Feuille, & Burdzy, 2011), 12-Item Short-Form Health Survey (SF-12; Ware, Kosinski, & Keller, 1996) and Chronic Disease Self-Report Measure (Schry et al., 2015).

Correlation was the most appropriate design for the purpose of this study because I examined the relationship between existing variables within a theoretical framework. According to Simon (2006), a correlational study is the best approach to use for this study because the main purpose is to analyze relationships between variables. Correlational design was the most appropriate statistical methodology to examine the relationships amongst stress, coping, health perceptions and actual health outcomes. Quantitative designs are directed toward predicting, controlling, confirming, and testing hypotheses (Simon, 2006). A quantitative approach, using an online survey was used to reach a large geographically distributed population yielding time and cost-efficient savings (Singleton & Straits, 2005). The target population for this study was geographically dispersed across all of the United States of America. As a result, I used electronic Likert-type surveys to collect the data, test the hypotheses, and answer narrowly defined research questions. Of

the approaches considered, a nonexperimental correlational design using ordinal logistic regression was the most appropriate analysis for this study.

All research questions and hypotheses were evaluated using an ordinal logistic regression analysis to determine the relative strength of the predictor variables on the score of actual health outcomes, reflecting chronic disease. One ordinal logistic regression analysis was ran with the multiple predictor variables and ordinal outcome variable. The study variables and how they were assessed is shown in Table 1.

Table 1

Predictor and Criterion Variables

Criterion Variable	*Scale of Measurement*	*Instrument*	*Total Score/ Subscale Score*
Actual Health Outcomes	*Ordinal*	*Chronic Disease Self-Report Measure*	*Number of Chronic Diseases – Total Scores*
Predictor Variables	*Scale of Measurement*	*Instrument*	*Total Score/Subscale*
Life Stress	*Interval*	*Social Readjustment Rating Scale*	*Total Life Stress Score*
Psychological Coping Styles	*Interval*	*Brief COPE Inventory*	*Positive coping Subscale* *Negative coping Subscale*
Religious Coping	*Interval*	*Brief Religious COPE*	*Total Religious Coping Score*
Health Perceptions	*Interval*	*12-Item Short-Form Health Survey (SF-12)*	*Mental Health Perceptions Subscale* *Physical Health Perceptions Subscale*

Methodology

Population

The target population for this study consisted of all Eastern Orthodox Clergy residing in the United States. Participant data were obtained via an online survey method from the 1860 parishes in the United States obtained from the Eastern Orthodox Clergy Yearbook (2016). The potential participants were sent an e-mail containing an accessible web link managed by SurveyMonkey and distributed via email to clergy agreeing to be a participant or posted to a website where participants could access them. According to Krindatch (2011), the United States has 1860 Eastern Orthodox parishes, with each parish consisting of either one or two clergy. Therefore, a projected population of 1860 parishes in the United States was used to determine the potential sample size.

Sampling and Sampling Procedures

A power analysis was performed using G*Power 3.0 software (Faul, Erdfelder, Lang, & Buchner, 2007) to calculate the sample size. A power analysis requires the following statistical variables: alpha level, number of predictors, anticipated effect size, and desired statistical power (Faul, Erdfelder, Lang, & Buchner, 2007). The statistical variables included the following: an alpha level of 0.05, six predictor variables, an anticipated effect size of medium size of 0.15, and statistical power of 0.95 (Miles & Sheylin, 2007). In the limited literature available, a conservative effect size of small to medium was reported (Proeschold-Bell & LeGrand, 2012; Wells, 2012; Wells, 2013). According to Krindatch (2011), approximately 80% of Eastern Orthodox clergy residing

in the United States are married with parish sizes ranging between 250 to 300 parish families. Limiting the data collection process to only married clergy with parish sizes ranging from 250 to 300 parish families controlled for the marriage and parish size variables.

The power analysis resulted in a recommended sample size of 129 participants. The participant-to-predictor variable ratio has to be substantial or the results could yield unreliable and invalid data (Faul, Erdfelder, Lang, & Buchner, 2007). Subsequently, when dealing with a large number of predictor variables and a small sample size, the regression solution could significantly predict the criterion variable almost perfectly, but only as an artifact of the participant-to-variables ratio and not as a function of the significant predictive ability of the individual variable (Faul, Erdfelder, Lang, & Buchner, 2007). According to Tabachnick and Fidell (2007), when ordinal logistic regression is used, it is best to have 20 times more participants than variables. Tabachnick and Fidell (2007) suggested power may be unacceptably low no matter what the participant-to-variable ratio is if there are fewer than 100 cases. Additionally, a rule of thumb for ordinal logistic regression is that the minimum requirement is to have at least 5 times more cases than variables (Tabachnick & Fidell, 2007).

Although the desired numbers of participants was expected to be achieved, the possibility that the actual number could be lower did exist. If the desired sample size was not achieved, it would be necessary for the number of predictor variables to be decreased by combing several of the subtest scores into total scores (Tabachnick & Fidell, 2007).

Participants were included in this study if they were employed as clergy in one of the 1860 Eastern Orthodox parishes in the United States, married, with a parish size between 250 to 300 parish families, literate in English, worked in the ministry for at least five years, and lived in the United States for at least five years, to ensure exposure and acclamation to US cultural standards. Contrastingly, exclusion occurred when there was celibacy, a parish size that was not between 250 to 300 parish families, English language illiteracy, worked in the ministry for less than five years, and residence in the United States for less than five years.

Procedures for Recruitment and Participation

Approval to conduct the research was obtained from the Institutional Review Board at Walden University. The first stage consisted of initial communication via the Eastern Orthodox Network in the United States announcement about the survey. According to Krindatch (2011), there is potential for a high participant response rate due to the Eastern Orthodox clergy members residing in the United States (consisting of 1 or 2 clergy within 1,860 parishes). In addition, I have been working with Eastern Orthodox clergy and their families since 2007, which might have increased participant response rates. Following the initial announcement about the project, e-mail contact with the sample population began. The e-mail included general information introducing the topic of the study, a summary of the informed consent for participants, and a link to the website where the surveys could be completed. The e-mail was distributed directly to individual e-mail addresses of the Eastern Orthodox Clergy, which were obtained from the Eastern

Orthodox Clergy Yearbook. All of the responders were able to access e-mail from their office and from home. A website was used to collect the data to ensure anonymous participation. The survey included the informed consent, the Social Readjustment Rating Scale, Brief COPE, Brief RCOPE, SF-12, and the Chronic Disease Self-Report Measure, and was available online on SurveyMonkey. The link was included in the initial contact e-mail to all participants of the study. Approximately 500 emails were sent to the potential participants. The informed consent form included the following: (a) background information and justification for the study, (b) procedures for voluntary participation, (c) anonymous participation information, and (d) ethical concerns related to the research. There was also a discussion of the risks and benefits of participating in the research. Any participants interested in receiving the results of the study or wishing to obtain more information regarding the topic discussed were invited to contact me via e-mail or phone contact. Participants who completed the website surveys and met the eligibility criteria were included in the study. Participants who did not meet the criteria were excluded from the study.

Instrumentation and Operationalization of Constructs

Participants were asked to complete five standardized instruments: Once participants agreed to take the surveys by completing the consent form, the order of survey completion was as follows: (a) Social Readjustment Rating Scale (Holmes & Rahe, 1967), (b) Brief COPE Inventory (Carver, 1997), (c) the Brief Religious COPE Inventory (Pargament, Koenig, & Perez, 2000), (d) 12-Item Short-Form Health Survey

(SF-12; Ware, Kosinski, & Keller, 1996), and (e) Chronic Disease Self-Report Measure (Schry et al., 2015). All of these standardized instruments are in the public domain.

Social Readjustment Rating Scale

The Social Readjustment Rating Scale **(**SRRS, see Appendix A) is a 43-item instrument used to measure life stress and stress-induced problems (Holmes & Rahe, 1967). The SRRS is a tool that measres life change within a one-year time period. Holmes and Rahe (1967) designed the scale to (a) identify life changes within a one year time-span, (b) predict the degree to which life change predicts life stress and stress-induced problems, (c) profile the characteristics of life events versus life stress and stress-induced health problems, and (d) describe the relationships between life events, life stress, and stress-induced health problems. The SRRS consists of 43 life event questions, with corresponding mean values, such as (a) death of a spouse mean value is 100 points, (b) divorce mean value is 73 points, (c) marital separation mean value is 65 points, (d) detention in jail or other institution mean value is 63 points, and so on. The points are totaled and interpreted using the following: 150 points or less means a relatively low amount of life change and a low susceptibility to stress-induced health problems, 150 to 300 points implies a 50% chance of a major stress-induced health problem in the next two years, and 300 or more points raises the odds to about 80% of a major stress-induced health problem occurring within the next two years (Holmes & Rahe, 1967).

The SRRS is a well-known tool for measuring the amount of stress individuals experience within the past year. Rahe, Mahan, and Arthur (1970) tested the validity of the

stress scale in predicting illness. There was significant correlation between stress scale scores and illness ($r = +0.12$, $p < .05$), which supported the hypothesis of a link between life events and illness (Rahe, Mahan, & Arthur, 1970). Scully and Tosi (2000) found that the R^2 for predictive validity was .21 ($p < .05$) and the R^2 for predicting stress-related outcomes using SRRS scores on the controllable and uncontrollable SRRS events was .20 ($p < .05$). Subsequently, the R^2 for predicting stress-related outcome scores using scores on the contaminated and uncontaminated SRRS events was .20 ($p < .05$). This data demonstrates that the SRSS is a robust inventory for identifying the occurrence potential for stress-related outcomes (Scully & Tosi, 2000). Gerst, Grant, Yager, and Sweetwood (1978) tested the reliability of the SRRS and found that rank ordering remained extremely consistent both for healthy adults ($r = 0.96$, $r = 0.89$) and patients ($r = 0.91$, $r = 0.70$).

According to Komaroff, Masuda, and Holmes (1968), the scale was also assessed against different populations within the United States (with African, Mexican, and White American groups). The scale was also tested cross-culturally, comparing Japanese and Malaysian groups with American populations. Therefore, this scale has been found to be generalizable across a diverse demographic population. Komaroff et al. (1968) reported a modest correlation between the number of life-changing units experienced in the previous year with a person's health in the present year ($r = .44$, $p < .05$). Significant correlations have been reported between SRRS scores and heart attacks, broken bones, diabetes, multiple sclerosis, tuberculosis, complications of pregnancy and birth, decline in

academic performance, employee absenteeism, and other difficulties (Komaroff, et al., 1968). Although the scale was originally developed and validated using only male subjects it provides useful results with both male and female subjects and it has been found reliable and valid in Japanese, Latin American, European, and Malaysian populations ($r = .12$, $p < .05$) (Zimbardo, Weber, & Johnson, 2004).

Brief COPE Inventory

The Brief-COPE (BCI; see Appendix B) represents the abbreviated form of the COPE inventory and has been successfully used in health-related research (Carver, 1997). The BCI is a 28-item instrument that measures ways individuals cope with stress in their life (Carver, 1997). The 28 items on the BCI are grouped into three types of coping strategies: (a) problem-focused coping (PFC), (b) emotion-focused coping (EFC), and (c) avoidant oriented coping (AOC). Higher scores indicate greater use of the strategy. The 28 items are rated with a 4-point scale ranging from 0 (*I usually don't do this at all*) to 3 (*I usually do this a lot*). Problem-focused and emotion-focused coping are the sums of 16 adaptive items, with scores ranging from 0 to 48. Avoidant-oriented coping is the sum of 12 maladaptive items, with scores ranging from 0 to 36. Higher scores on the scales indicate more frequent use of that coping style (Carver, 1997). According to Mahmood, Staten, Lennie, and Hall (2015), the Cronbach's alpha of maladaptive coping was determined to be .81 and the Cronbach's alpha of adaptive coping was found to be .88, which demonstrated good internal consistency reliability among young adult college students.

Yusoff, Low, and Yip (2010) reported that internal consistency for the BCI, as indicated by Cronbach's alpha, ranged from 0.25 to 1.00. Meanwhile, the test-retest Intraclass Correlation Coefficient (ICC) ranged from 0.05 to 1.00. Sensitivity of the scale was indicated by the mean differences as observed in most of the domains. Some domains showed significant p-value, such as Active Coping ($p < 0.001$), Positive Reframing ($p < 0.001$), Humor ($p < 0.01$) and Using Instrumental Support ($p < 0.05$). The discriminant analysis showed that the scale was able to differentiate the coping strategies used between women with mastectomy and women with lumpectomy in domains like Active coping ($p < 0.01$), Planning ($p < 0.01$) and Acceptance ($p < 0.05$) (Yusoff, Low & Yip, 2010). In a follow up study by Yusoff et al. (2012), the Cronbach's alpha coefficient of the BCI was 0.71 ($p < .05$). This suggests that the BCI is a reliable instrument based on its acceptable internal consistency (Yusoff, Low & Yip, 2012).

Brief Religious Coping Inventory

The Brief RCOPE (see Appendix C) measures positive religious coping and negative religious coping subscales of the 14-item scale (Pargament, Koenig, & Perez, 2000). Participants respond by answering Yes or No on the positive religious coping subscale items, which include the following: *(a) looked for a stronger connection with God, (b) sought God's love and care, (c) sought help from God in letting go of my anger, (d) tried to put my plans into action together with God, (e) tried to seek how God might be trying to strengthen me in this situation, (f) asked forgiveness for my sins, and (g) focused on religion to stop worrying about my problems.* Contrastingly, participants

respond by answering Yes or No on the negative religious coping subscale items, which include the following: *(h) wondered whether God had abandoned me, (i) felt punished by God for my lack of devotion, (j) wondered what I did for God to punish me, (k) questioned God's love for me, (l) wondered whether my church had abandoned me, (m) decided the devil made this happen, and (n) questioned the power of God.*

The Brief RCOPE has demonstrated good internal consistency (Cronbach's alpha = 0.89, $p < .05$) in various studies across broadly different sample populations that included African American women survivors of intimate partner violence, cardiac surgery, cancer, HIV, and residential care patients and caregivers, alcohol disorder outpatient samples, students in Catholic middle school districts, and even Massachusetts and New York City residents following 9/11 (Bradley, Schwartz, & Kaslow, 2005; Lewis, Maltby, & Day, 2005; Piderman, Schneekloth, Pankratz, Maloney, & Altchuler, 2007; Schanowitz, & Nicassio, 2006; Tsevat, Leonard, Szaflarski, Sherman, Cotton, Mrus, & Feinberg, 2009; Van Dyke, Glenwick, Cecero, & Kim, 2009). The Cronbach's alpha for the Positive Religious Coping (PRC) scale was 0.92. The lowest Cronbach's alphas were found among a sample of Nazarene university students returning from a 2-month mission trip (0.67) and a sample of Muslim Pakistani University students (0.75). The highest Cronbach's alpha for PRC was 0.94 (27). Alphas for the NRC scale were generally lower than those for the PRC scale, ranging from 0.60 among Pakistani undergraduates to 0.90 in a sample of cancer patients. The median alpha reported for the NRC scale was 0.81 (Pargament, Koenig, & Perez, 2000).

According to Pargament, Feuille, and Burdzy (2011), the Brief RCOPE has demonstrated good concurrent validity, positively associated with subjective religiousness (r =.80, p < .001), public religiousness (r = .64, p < .001), and private religiousness (r =.77, p < .001). Researchers examined the predictive validity of the Brief RCOPE and provided initial support for the capacity of PRC and NRC (r = .33), p < .001) to predict greater well-being and poorer adjustment, respectively, over time (Piderman, Schneekloth, Pankratz, Maloney & Altchuler, 2007; Van Dyke, Glenwick, Cecero, & Kim, 2009). Bradley, Schwartz, and Kaslow (2005) offered favorable preliminary evidence for the predictive validity of the Brief RCOPE. A variety of researchers have determined the degree to which the Brief RCOPE predicts various criteria above and beyond the effects of psychological, demographic, social and health-related variables (Bradley, Schwartz, & Kaslow, 2005; Lewis, Maltby, & Day, 2005). There is evidence for the incremental validity of PRC in predicting (r = .85, p < .005) well-being after controlling for gender and age, and other secular variables, such as financial concerns, race, offspring, and other psychosocial concepts (Pargament, Koenig, & Perez, 2000).

Mohammadzadeh and Najafis (2016) explored the validity of the Brief Religious Coping Scale among Iranians. Correlation values for positive and negative religious coping subscales indicated convergent validity (r = .85 and r = .83, p < .005). Test–retest reliability of total and subscale was found equal to .90, .93, and .88, respectively. Split-half reliability of total scale and the two aforementioned subscales were .75, .85, and .81.

Cronbach's alpha scores .79 and .71 for positive and negative factors, respectively. Therefore, the Brief RCOPE is a useful scale for screening larger sample sizes in religious-oriented studies (Mohammadzadeh & Najafi, 2016).

SF-12 Health Survey

The SF-12 (see Appendix D) is a 12-item survey that measures mental and physical health perceptions (Ware, Kosinski, & Keller, 1996). The SF-12 consists of the following initial questions: 1) In general, would you say your health is a) excellent, b) very good, c) good, d) fair, or e) poor. The second question consists of the following: Does your health now limit you in various activities, using the following answers: a) YES, a limited a lot, b) YES, limited a little, and c) NO, not limited at all.

According to Cheak-Zamora, Wyrwich, and McBride (2009), the SF-12 measuring both Mental Component Summary Scores (MCS) and Physical Component Summary Scores (PCS) were shown to have high internal consistency reliability (alpha > .80). PCS showed high test-retest reliability (ICC = .78) while MCS demonstrated moderate reliability (ICC = .60). PCS had high convergent validity for EQ-5D items (except self-care) and physical health status (r = .56). Ware, Kosinski, and Keller (1996) demonstrated moderate convergent validity on EQ-5D and mental health items (r = .38) in MCS while distinguishing between groups with different physical and work limitations in PCS. The MCS and PCS included variations in chronic condition scores (Cheak-Zamora, Wyrwich, & McBride, 2009; Ware, Kosinski, & Keller, 1996).

Chronic Disease Self-Report Measure

The Chronic Disease Self-Report Measure (see Appendix E) consists of various chronic diseases questions, in which participants check off certain afflictions (Schry, Rissling, Gentes, Beckham, Kudler, Straits-Troster, & Calhoun, 2015). Participants are asked to check off the following diagnosed health problems: chronic conditions (long term) including: (a) allergies; (b) blood and lymphatic; (c) cancer; (d) cardiovascular; (e) ear, nose, and or throat; (f) endocrine; (g) eye and or vision; (h) gastrointestinal; (i) HIV/AIDS; (j) kidney and urologic; (k) liver; (l) male reproductive; (m) musculoskeletal/joint; (n) neurologic; (o) psychiatric; (p) respiratory; (q) skin; (r) sleep disorders; and (s) other chronic conditions.

The Chronic Disease Self-Report measure is commonly used for collecting health conditions and symptoms (Beckham, Moore, Feldman, Hertzberg, Kirby, & Fairbank, 1998). Beckham, et al. (1998) used the Chronic Disease Self-Report Measure, which included item symptoms (e.g., diarrhea, muscle aches) and chronic health problems, yielding high validity and reliability in actual health outcomes. The Chronic Disease Self-Report Measure accurately assessed chronic disease in a reliable and consistent manner ($r = .60$, $p < .0001$). Barrett et al., (2002) used the Chronic Disease Self-Report Measure to ask participants about various physical health symptoms. Similar methods of collecting actual health outcomes, including chronic disease have yield valid and reliable data ($r = .60$, $p < .001$). The number of physical symptoms reported was positively correlated with PTSD severity ($r = 0.60$, $p < 0.001$). A similar positive relationship was found between

the number of medical conditions reported and PTSD severity ($r = 0.50$, $p < 0.0001$) (Barrett et al., 2002).

The Chronic Disease Self-report Measure has been used in other studies to assess physical health symptoms (Schry, Rissling, Gentes, Beckham, Kudler, Straits-Troster, & Calhoun, 2015). Schry et al.(2015) provided participants with this self-report measure in order to measure diagnosed health conditions. Participants were presented with a list of medical conditions and asked to indicate whether the medical condition was present and diagnosed. According to Schry et al. (2015), using the Chronic Disease Self-Report Measure in collecting health conditions and health symptoms is a common practice, which yields valid and reliable actual health outcome data ($r = 0.50$, $p < .0001$).

Research Questions and Hypotheses

This quantitative study was designed to determine the relationship between stress, coping styles, and health perceptions on actual health outcomes among clergy. The research questions and hypotheses included the following:

Research Question 1: To what extent does life stress, as measured by the SRRS, relate to actual health outcomes (chronic disease), as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$1: Life stress is not a significant predictor of actual health outcomes (chronic disease).

$H_1$1: Life stress is a significant predictor of actual health outcomes (chronic disease).

Research Question 2: To what extent does positive coping style, as measured by the Brief COPE inventory relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$2: Positive coping style is not a significant predictor of actual health outcomes.

$H_1$2: Positive coping style is a significant predictor of actual health outcomes.

Research Question 3: To what extent does negative coping style, as measured by the Brief COPE inventory relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$3: Negative coping style is not a significant predictor of actual health outcomes.

$H_1$3: Negative coping style is a significant predictor of actual health outcomes.

Research Question 4: To what extent does religious coping, as measured by the Brief Religious Coping relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$4: Religious coping is not a significant predictor of actual health outcomes (chronic disease).

$H_1$4: Religious coping is a significant predictor of actual health outcomes (chronic disease).

Research Question 5**:** To what extent does health perception as measured by the SF-12 relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$5: Health perception is not a significant predictor of actual health outcomes (chronic disease).

$H_1$5: Health perception is a significant predictor of actual health outcomes (chronic disease).

Research Question 6: To what extent does age relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$6: Age is not a significant predictor of actual health outcomes (chronic disease).

$H_1$6: Age is a significant predictor of actual health outcomes (chronic disease).

Research Question 7: To what extent does time in ministry relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$7: Time in ministry is not a significant predictor of actual health outcomes (chronic disease).

$H_1$7: Time in ministry is a significant predictor of actual health outcomes (chronic disease).

Data Analysis Plan

The data was analyzed using IBM SPSS 18.0 software package. Research questions were evaluated by examining the relationship between life stress, coping styles (positive, negative, and religious), and two scales of health perceptions (physical and mental), age, and years in ministry in relation to actual health outcomes (chronic

diseases). Ordinal logistic regression analyses was used to determine if the measures of life stress predicted actual health outcomes, if the measures of coping styles predicted actual health outcomes, and if the measures of health perceptions predicted actual health outcomes.

Also included in the statistical analyses were tests to validate the assumptions of ordinal logistic regressions. Analyses were done to test the following: linear relationship between the variables, normality, multicolinearity, no auto-correlation, and homoscedasticity. Linearity was tested using a scatterplot in SPSS. Normality was determined by using Q-Q plots. Multicolinearity diagnostics were performed in SPSS to ensure that the independent variables were independent from one another. A Durbin-Watson's *d* test was conducted to show no auto-correlation. Finally, a standardized residual plot was conducted to determine homoscedasticity. This screening was conducted prior to analysis and determined if the data met the assumptions for ordinal logistic regressions. A report of these assumptions was provided in Chapter 4.

Internal consistency reliability using Cronbach's coefficient alpha for the five instruments was reviewed (SRRS, Brief COPE, Brief RCOPE, SF-12, and Chronic Disease Self-Report Measure). Ordinal logistic regression analysis was used to determine the relative strength of each predictor variable (stress, problem, emotion, avoidant, and religious coping, and health perceptions) in predicting the ordinal criterion variable of the actual health outcome score, reflecting chronic disease. There was one ordinal logistic regression analysis run on the entire data set.

Threats to Validity

Quantitative research can be described as being more valid and reliable than qualitative or mixed methods approaches due to objective data collection processes (Creswell, 2009). Despite objectivity, there are various threats to both external and internal validity that can arise in this study. According to Creswell (2009), external validity is the extent to which the researcher can conclude that results apply to a larger population and providing generalizability. There were various threats to external validity that occurred in this study. Firstly, the interaction effects of selection biases occurred because I unintentionally chose individuals who had particular biases towards my variables. For example, since I was conducting online survey research, only clergy participants who were already comfortable enough with the computer and Internet chose to participate in an online survey. Therefore, I missed participants who were not comfortable with computers. Secondly, I was not able to control for any extenuating variables that might have occurred during the online survey response process. Therefore, participant responses could have been influenced by external environmental variables beyond my control, such as social distractions and Internet disconnections.

Internal validity refers to whether a condition makes a difference or not and whether there is sufficient evidence to support the claim (Creswell, 2009). There were various threats to internal validity that could have occurred in this study. Firstly, online survey administration changes might produce alterations in response outcomes. Using SurveyMonkey to create online versions of the various surveys might have impacted the

instrument and participant responses, which may have produced changes in outcomes (Creswell, 2009). Various factors could have affected the results, including minor changes in wording, after converting paper instruments into online surveys.

Construct and statistical conclusion validity threats are also prominent in correlational designs. According to Creswell (2009), a threat to conclusion validity is a factor that can lead a researcher to reach an incorrect conclusion about a relationship in desired variables. Researchers essentially can make two kinds of errors about relationships, such as concluding that there is no relationship when in fact there is or concluding that there is a relationship when in fact there is not. In order to minimize this threat of conclusion validity, I had my data and results monitored by my dissertation chair and committee member to increase accountability and ensure data interpretation accuracy.

All of the threats to validity described above were limitations to this quantitative study. The acknowledgment of these limitations enhanced my knowledge of the possible threats to validity and were addressed accordingly in order to yield valid and reliable data.

Ethical Considerations

Participant rights were considered for all participants per Institutional Review Board (IRB) compliance. However, they were in full support of the survey and wanted to provide any resources available to help with the study. Participation procedures, including confidentiality, a reminder that participation in the study is completely

voluntary, and that participants are free to withdraw from the study at any time during the process were addressed in the informed consent form given to all potential participants. Additionally, included in the informed consent was information regarding any risks and benefits associated with study participation. Should potential participants have had any further questions in regard to participation, including any feelings of stress during the completion of the surveys, a phone number was provided for them to use to contact the Orthodox Christian Hotline (http://www.occiservices.org/links.html). Participants were advised that all responses remained confidential and stored in my password secured computer. Also, it was explained that I would be the only one with access to the stored data, and that the data would be stored for five years, then destroyed per the American Psychological Association guidelines (American Psychological Association, 2010). Participants were required to sign the electronic informed consent to indicate that they understood and agreed to the conditions of the study.

There should have been minimal risk to the participants in completing the online survey, including minor discomforts that could be encountered in daily life, such as thinking about one's own life stress, assuming these kinds of thoughts would make one uncomfortable. The anonymous data collection was used to further minimize any possible risks to the participants. Further, the consent form was developed using Walden University's template consent form, and contained all the elements required by the IRB.

Summary

Chapter 3 provided the research design and methodology that was used in testing the hypotheses as well as describing the measures. SurveyMonkey was used for online survey administration after consent was obtained. This was a quantitative study, with a non-experimental design using survey methodology comprising the three independent variables of life stress (i.e. high, moderate, low), coping styles (psychological and religious), and health perceptions (i.e. physical and psychological), and the one ordinal dependent variable, actual health outcomes (chronic disease). These were analyzed by ordinal logistic regression analyses. In Chapter 4, I discuss data collection and analysis and present the findings from the descriptive and inferential statistics.

Chapter 4: Results

The purpose of the current study was to investigate whether life stress, psychological coping (positive and negative coping style), religious coping, health perceptions, age, and years in ministry are predictors of actual health outcomes (chronic disease) in Eastern Orthodox Clergy. This quantitative nonexperimental study was done to assess the predictive relationships between these variables. In this chapter, I present the research questions, a description of the data collection, an evaluation of the statistical assumptions and the results from the ordinal logistic regression analyses. The following research questions guided this study:

Research Question 1: To what extent does life stress, as measured by the SRRS, relate to actual health outcomes (chronic disease), as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$1: Life stress is not a significant predictor of actual health outcomes (chronic disease).

$H_1$1: Life stress is a significant predictor of actual health outcomes (chronic disease)

Research Question 2: To what extent does positive coping style, as measured by the Brief COPE Inventory relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$2: Positive Coping style is not a significant predictor of actual health outcomes.

$H_1$2: Positive Coping style is a significant predictor of actual health outcomes.

Research Question 3: To what extent does negative coping style, as measured by the Brief COPE Inventory relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$3: Negative Coping style is not a significant predictor of actual health outcomes.

$H_1$3: Negative Coping style is a significant predictor of actual health outcomes.

Research Question 4: To what extent does religious coping, as measured by the Brief Religious Coping relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$4: Religious coping is not a significant predictor of actual health outcomes (chronic disease).

$H_1$4: Religious coping is a significant predictor of actual health outcomes (chronic disease).

Research Question 5: To what extent does health perception, as measured by the SF-12 relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$5: Health perception is not a significant predictor of actual health outcomes (chronic disease).

$H_1$5: Health perception is a significant predictor of actual health outcomes (chronic disease).

Research Question 6: To what extent, does age relate to actual health outcomes

(chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$6: Age is not a significant predictor of actual health outcomes (chronic disease).

$H_1$6: Age is a significant predictor of actual health outcomes (chronic disease).

Research Question 7: To what extent, does years in ministry relate to actual health outcomes (chronic disease) as measured by the Chronic Disease Self-Report Measure, in Eastern Orthodox Clergy?

$H_0$7: Years in ministry is not a significant predictor of actual health outcomes (chronic disease).

$H_1$7: Years in ministry is a significant predictor of actual health outcomes (chronic disease).

A convenience sample of 129 Eastern Orthodox Clergy completed an online survey that included the SRRS (Holmes & Rahe, 1967), the Brief COPE Inventory (Carver, 1997), the Brief Religious COPE Inventory (Pargament, Koenig, & Perez, 2000), the 12-Item Short-Form Health Survey (SF-12; Ware, Kosinski, & Keller, 1996), and the Chronic Disease Self-Report Measure (Schry et al., 2015). . Data was analyzed using IBM SPSS 23.0 for Windows.

Data Collection

This research was approved by the Walden University Institutional Review Board (IRB approval 08-14-17-0335183) on August 14, 2017. SurveyMonkey sent out e-mail invitations and a one-time use survey link to Eastern Orthodox potential clergy

participants in the entire United States. Survey data were collected from August 15, 2017 to December 15, 2017. All survey responses were collected anonymously. A total of 147 surveys were collected. After removal of incomplete responses, a final sample size of 129 respondents was included in the final analyses. A post hoc power analysis of the data was conducted using Walter's (2004) Microsoft Excel spreadsheet that performs sample size calculations for the ordinal logistic regression model. The inputted fixed parameters were a one-tailed alpha level of 0.05 and a sample size of 129. The resulted post hoc power calculation equaled .98.

Results

Descriptive statistics for the sample and results of the ordinal logistic regression analysis are presented in this section. I calculated means, standard deviations, frequencies, and percentages for the predictor variables. I conducted ordinal logistic regression with life stress, positive coping style, negative coping style, religious coping, health perceptions, age and years in ministry as potential predictors of the actual health outcomes (chronic disease).

Descriptive Statistics

Participants responded to a screening question prior to accessing the measures that comprised the survey. All participants reported they were married Eastern Orthodox Clergy (n = 129). Participants also reported they had worked in the ministry for a minimum of 5 years with parish sizes between 250 to 300 parish families (n = 129). There were 17 participants between the ages of 18 to 40 (n = 17, 13.2%), 78 participants

between 41-65 (*n* = 78, 60.5%), and 34 participants over the age of 65 (*n* = 34, 26.4%). Participants were asked to provide additional information regarding their years in ministry. Most participants reported being in the ministry for over 26 years (*n* = 55, 42.6%). There were 44 participants with 5-15 years in ministry (*n* = 44, 34.1%), 30 participants with 16-25 (*n* = 30, 23.3%) years in ministry, and 55 participants who have been in the ministry for over 26 years (n = 55, 42.6%). Demographic characteristics for participants are presented in Table 2.

Table 2

Frequency Data for Clergy Age and Time in Ministry

Variable	*N*	%
Age of Clergy		
18-40	17	13.2
41-65	78	60.5
65+	34	26.4
Years in Ministry		
5-15	44	34.1
16-25	30	23.3
26+	55	42.6

Note: Due to rounding errors, percentages may not equal 100%

Initially, participants completed the SRRS survey, which includes assessment of three different levels to measure susceptibility for stress-induced health breakdown. Sixty-four participants reported low scores (*n* = 62, 44.8%), 51 participants reported moderate scores (*n* = 51, 35.7%), and 28 participants reported high scores (*n* = 28, 19.6). Frequencies for the life stress scores as reported by participants are included in Table 3. A low score of 1.5 or less means a relatively low amount of life change. A moderate score of 1.5 to 3.0 implies about a 50% chance of a major health breakdown in the next

two years. Last, a high score of 3.0 or higher raises the odds to about 80% chance of a major health breakdown in the next two years (Rahe, Mahan, & Arthur, 1970). Frequency data on the SRRS for the participants are presented in Table 3.

Table 3

Frequency Data for Social Readjustment Rating Scale (SRRS) Assessing Life Stress

Variable	*N*	%
Low Score 1.5 score or less means a relatively low amount of life change and a low susceptibility to stress-induced health breakdown.	64	44.8
Moderate Score 1.5-3.0 score implies about a 50% chance of a major health breakdown in the next two years.	51	35.7
High Score 3.0 score or more raises the odds to about 80%, according to the Holmes-Rahe statistical prediction model.	28	19.6

Note: Due to rounding errors, percentages may not equal 100%

Participants completed the Brief COPE Inventory to assess positive and negative coping styles. Positive coping style scores ranged from 8.0 to 30.0 with an average of 20.05 (*SD* = 5.36). Negative coping style scores ranged from 4.0 to 16.0 with an average of 7.02 (*SD* = 2.48). Descriptive statistics for positive and negative coping style are shown in Table 4.

Participants completed the Brief Religious COPE Inventory to assess religious coping styles. According to Pargament, Smith, Koenig, and Perez (1998), scores higher than 20 are indicative of positive religious coping styles, while those less than 20 are indicative of negative religious coping styles used under stressful circumstances.

Religious coping scores ranged from 14.0 to 28.0 with an average of 21.01 (*SD* = 1.93). The mean and standard deviation for the religious coping styles are shown in Table 4.

Table 4

Descriptive Statistics for Brief COPE Inventory, Brief Religious COPE Inventory, and SF-12 Health Perceptions

Variable	*M*	*SD*	*N*	Min.	Max.
Positive Coping Style	20.05	5.36	129	8.00	30.0
Negative Coping Style	7.02	2.48	129	4.00	16.0
Religious Coping	21.01	1.93	129	14.0	28.0
Health Perceptions	25.65	2.32	129	16.0	31.0

Participants completed the SF-12 Health Survey to assess health perceptions. According to Ware, Kosinski, and Keller (1996), scores above 50 indicate higher levels of health perceptions. Higher levels of health perceptions indicate more positive health perceptions, representing that they perceive themselves as being healthy. Scores below 50 indicate lower levels of health perceptions. Lower levels of health perceptions indicate less positive health perceptions. The average for health perception score was 25.65 (*SD* = 2.32) and ranged from 16.0 to 31.0. This is below the average for health perception standards, indicating low levels of health perceptions (Ware, Kosinksi & Keller, 1996). The descriptive statistics for health perceptions are shown in Table 4.

Participants completed the Chronic Disease Self-Report Measure to assess health outcomes (chronic disease). It consists of 5 questions that cover topics based on both physical and mental health including heart disease, diabetes, obesity, depression, and anxiety. Twenty-six participants reported no chronic conditions (*n* = 26, 20.2%), 62

participants reported one chronic condition (n = 62, 48.1%), and 41 participants reported two or more chronic conditions (n = 41, 31.8%). Frequencies for the number of chronic conditions as reported by the participants are included in Table 5.

Table 5

Frequency Data for Number of Chronic Health Conditions

Variable	*N*	%
No Chronic Health Conditions	26	20.2
One Chronic Health Condition	62	48.1
More than one Chronic Health Condition	41	31.8

Note. Due to rounding errors, percentages may not equal 100%.

The Cronbach's alpha was calculated for each scale. The Cronbach's alpha was calculated to be .830 for the SRRS, .910 for the Brief COPE, -.133 for SF-12, and .649 for Brief RCOPE, as shown in Table 6. According to Field (2013), Cronbach's alpha is a measure of internal consistency and how closely related a set of items are as a group, measuring scale reliability. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The closer the coefficient is to 1.0, the greater is the internal consistency of the items (variables) in the scale. Cronbach's alpha coefficient increases either as the number of items (variables) increases, or as the average inter-item correlations increase (i.e., when the number of items is held constant). A reliability coefficient of .70 or higher is considered acceptable in social science research (Field, 2013). Therefore, the SRRS, Brief COPE, and Brief RCOPE reflected satisfactory internal consistency and reliability as shown in Table 6. Last, the SF-12, for assessing health perceptions, was found to have low reliability (internal consistency), indicating the

correlations among the SF-12 were very weak. According to Field (2013), Cronbach's alpha calculations are based on inter-item correlations and if the mean of inter-item correlations is negative, then a negative alpha value is yielded.

Table 6

Cronbach Alpha Coefficients for Each Survey

Scale	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of items
SRRS	.803	.830	43
Brief COPE	.912	.910	28
Brief RCOPE	.636	.649	14
SF-12 Health Perc	-.194	-.133	9

Evaluation of Statistical Assumptions

The dependent variable, health outcomes (chronic disease) was measured at the ordinal level (3 levels). The independent variables were continuous (positive coping style, negative coping style, religious coping, and health perceptions) and categorical (SRRS scores, age, and years in ministry). Thus, the data passed the first two ordinal logistic regression assumptions. There are four assumptions that needed to be considered:

1. One dependent variable, measured at the ordinal level.
2. One or more independent variables are continuous, ordinal or categorical.
3. There should be no multicollinearity.
4. The presence of proportional odds.

Before moving on to test the above assumptions, the PLUM ordinal regression procedure was run for the reliability of overall goodness-of-fit measures. According to Field (2013), the goodness-of-fit test starts from the null hypothesis that the fit is good ($p > .05$). Table 7 contains the Pearson's chi-square statistic for the model (as well as another chi-square statistic based on the deviance). These statistics were intended to test whether the observed data were consistent with the fitted model. The null hypothesis that the fit is good was not rejected ($p > .05$), concluding that the data and the model predictions were similar and that I have a good model. Therefore, the results for this analysis suggest the model does fit very well.

Table 7

Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	246.488	246	.479
Deviance	234.717	246	.687

Link function: Logit.

SPSS tests the proportional odds assumption. This is commonly referred to as the test of parallel lines because the null hypothesis states that the slope coefficients in the model are the same across response categories (and lines of the same slope are parallel). This is a key assumption in ordinal regression. The assumption is that the effects of any explanatory variables are consistent (proportional) across the different thresholds (splits between each pair of categories of the ordinal outcome variable). Therefore, the explanatory variables have the same effect on the odds regardless of the threshold.

Assessed by a null likelihood ratio test to compare the fit of the proportional odds model to a model with varying location parameters, $X^2(10) = 6.376$ with a p-value of .783. The test of parallel lines is suggestive to passing the assumption of proportional odds (assumption 4), as noted in the difference between the models, and the p-value greater than .05 (.783) as shown in Table 8.

Table 8

Test of Parallel Lines[a]

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	234.717			
General	228.341	6.376	10	.783

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.
a.Link function: Logit.

Prior to conducting the ordinal logistic regression analysis, I also assessed the assumptions of normality, homoscedasticity, and multicollinearity. I compared the calculated values for skewness and kurtosis to the guidelines established to indicate if the data distribution differs from a normal distribution. The residuals of the regression follow a normal distribution. By examining the normal Predicted Probability (P-P) plot, it was determined that the residuals are normally distributed, as they conformed to the diagonal normality line, shown in Figure 1.

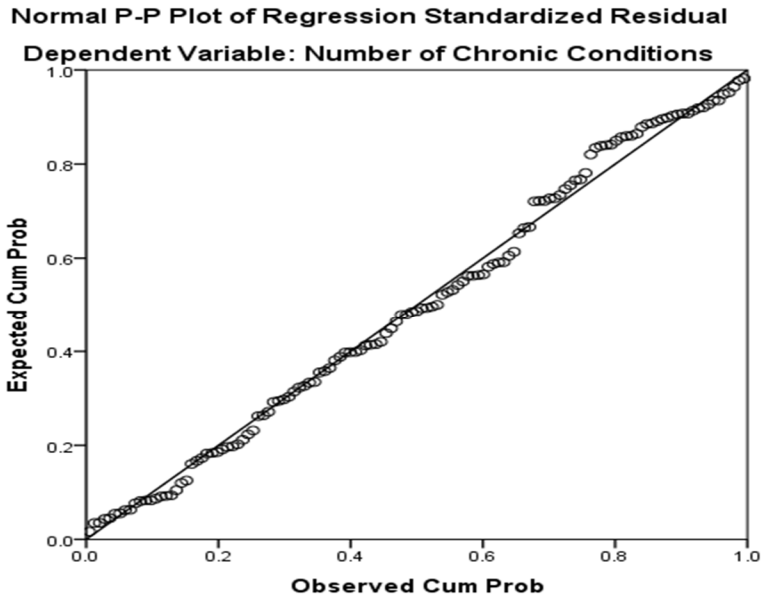

Figure 1. Normal predicted probability plot.

The critical values were +-2 for skewness and +-3 for kurtosis (Westfall & Henning, 2013). When the skewness is greater than or equal to 2 or less than or equal to -2, then the variable is considered to be asymmetrical about its mean. When the kurtosis is greater than or equal to 3 or less than or equal to -3, then the variable's distribution is markedly different than a normal distribution in its tendency to produce outliers (Westfall & Henning, 2013). The score for Religious COPE slightly exceeded the guidelines of kurtosis with a value of 3.154; therefore, the result was not normally distributed. According to Field (2013), the finding of normality in small sample sizes is historically difficult, therefore the small value of significance and the possible consequences of incorrectly transforming the data, the decision was made not to transform the data despite

the significant score for the Religious COPE variable. Skewness and Kurtosis values for all the variables are shown in Table 9.

Table 9

Results of Skewness and Kurtosis

Variable	Skewness	Kurtosis
Number of Chronic Conditions	.012	-1.255
Social Readjustment Rating Scale	1.484	2.487
Positive Coping Style	-.289	-.202
Negative Coping Style	1.141	1.527
Religious COPE	.183	3.154
Health Perceptions	-.479	1.567
Age	-.087	-.406
Time in Ministry	-.168	-1.683

To assess homoscedasticity, I examined a residual scatterplot for the predicted versus standardized data. The points appeared to be distributed about a mean value of zero and there was no curvature in the plot. Therefore, the assumption of homoscedasticity was met. The scatter plot of the residuals has an obvious pattern, as show in Figure 2.

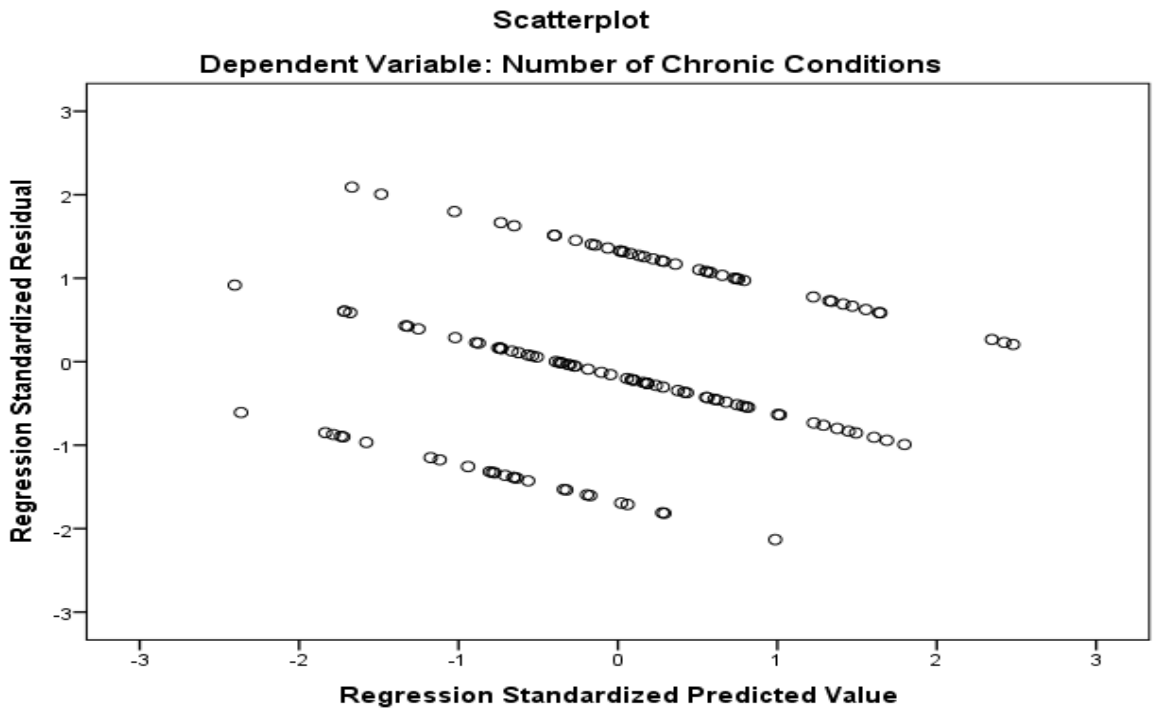

Figure 2. Residual scatterplot for homoscedasticity.

Finally, I checked for absence of multicollinearity using Variance Inflation Factors (VIFs) values for the predictor variables. I evaluated the VIFs using the benchmark developed by Menard (2009), where values greater than five may indicate issues while values greater than 10 are considered evidence of multicollinearity. VIFs reflected the amount of correlation among the predictor variables included in the analysis (Stevens, 2009). Each VIF value was below 10, indicating that the assumption of multicollinearity was met as shown in Table 10.

Table 10

VIF Values for the Predictor Variables

	Collinearity Statistics	
Variable	Tolerance	VIF
Social Readjustment Rating Scale	.885	1.13
Positive Coping Style	.859	1.16
Negative Coping Style	.783	1.28
Religious COPE	.925	1.08
Health Perceptions	.987	1.01
Age	.629	1.58
Years in Ministry	.647	1.55

Ordinal Logistic Regression Analysis

An ordinal logistic regression analysis was conducted to investigate whether age, years in ministry, positive coping style, negative coping style, religious coping, life stress, and health perceptions predicted actual health outcomes (chronic disease). The predictor variables of years in ministry, positive coping style, religious coping, life stress, and health perceptions were found to not contribute to the model ($p > .05$).

Table 11 includes the Pseudo R^2, the -2 log likelihood, which is the minimization criteria used by SPSS (Field, 2013). The Nagelkerke's R^2 is .261, which indicates that the model explains 26.1% of the predictor variables that were selected for this analysis in developing a chronic condition, as shown in Table 11. Furthermore, Cox and Snell's R^2 is interpreted such that there is a 23% probability of developing a chronic condition as explained by the logistic model as shown in Table 11.

Table 11

Pseudo R-Square

Cox and Snell	.228
Nagelkerke	.261
McFadden	.125

Link function: Logit.

The predictor variables of negative coping style and age in the ordinal logistic regression analysis were found to contribute to the model. For negative coping style, the ordered log-odds estimate of .262, SE = .088, Wald = 8.946, $p = .003$ favored a positive relationship of nearly 30% Exp(B) = 1.3, 95% CI (1.09, 1.54) for every one-unit increase of negative coping style as shown in Table 12. The odds of negative coping style developing a chronic condition versus not developing a chronic condition is 1.3 (95% CI, 1.09 to 1.54) with a statistically significant effect, X^2 (1) = 8.95 as shown in Table 12. Therefore, the null hypothesis was rejected.

The predictor variable of age in the ordinal logistic regression analysis was found to partially contribute to the model. The age category of 41 to 65 years of age in the ordinal logistic regression analysis was not found to contribute to the model, $p = .069$. The age category of 18 to 40 years of age in the ordinal logistic regression analysis was found to contribute to the model. For the age category of 18 to 40 years of age, the Ordered log-odds Estimate was -2.888, *SE* = .795, *Wald* = 13.208, $p < .001$. The estimated odds ratio for the age category of 18 to 40 years of age favored an inverse relationship of 94.43%, *Exp (-2.888)* = .056, 95% CI (.010, .260) compared to the

reference variable, the age category of greater than 65 years of age, meaning the youngest age group category of 18 to 40 years of age was more likely to have fewer chronic conditions compared to the oldest age group category of greater than 65 years of age, as shown in Table 12. The odds of the age category of 18 to 40 years of age developing a chronic condition versus not developing a chronic condition was .056 (95% CI, .012, .264) with a statistically significant effect, X^2 (1) = 13.208 is suggestive of a decrease probability of developing a chronic condition, as shown in Table 12. Therefore, the null hypothesis was rejected.

Table 12

Exponentiated Estimate = Odds Ratio

Independent Variable	Estimate	Std. Error	Wald	df	Sig	95% C.I.		Exp(B)	95% C.I. Exp(B)		Odds Ratio %	95% C.I. OR	
						Lower	Upper		Lower	Upper		Lower	Upper
[Num_Cond = 0]	3.95	3.03	1.71	1.00	0.19	-1.98	9.88	52.09	0.14	19594.42	51.09	-0.86	19593.42
[Num_Cond = 1]	6.57	3.06	4.60	1.00	0.03	0.56	12.58	713.37	1.76	289525.89	712.37	0.76	289524.89
Health_Perceptions	0.10	0.08	1.58	1.00	0.21	-0.05	0.25	1.10	0.95	1.28	0.10	-0.05	0.28
R_COPE	0.05	0.10	0.29	1.00	0.59	-0.14	0.25	1.06	0.87	1.29	0.06	-0.13	0.29
Pos_Cope_Style	0.06	0.04	3.01	1.00	0.08	-0.01	0.13	1.07	0.99	1.14	0.07	-0.01	0.14
Neg_Cope_Style	0.26	0.09	8.95	1.00	0.00	0.09	0.43	1.30	1.09	1.54	0.30	0.09	0.54
[Age=1.00]	-2.89	0.80	13.21	1.00	0.00	-4.44	-1.33	0.06	0.01	0.26	-0.94	-0.99	-0.74
[Age=2.00]	-0.89	0.49	3.31	1.00	0.07	-1.85	0.07	0.41	0.16	1.07	-0.59	-0.84	0.07
[Age=3.00]	0.00							1.00	1.00	1.00	0.00	0.00	0.00
[Years_in_Ministry=1.00]	0.12	0.50	0.06	1.00	0.81	-0.85	1.10	1.13	0.43	3.00	0.13	-0.57	2.00
[Years_in_Ministry=2.00]	-0.18	0.53	0.12	1.00	0.73	-1.22	0.85	0.83	0.30	2.35	-0.17	-0.70	1.35
[Years_in_Ministry=3.00]	0.00							1.00	1.00	1.00	0.00	0.00	0.00
[SRSS_Levels=.00]	0.03	0.51	0.00	1.00	0.96	-0.97	1.02	1.03	0.38	2.77	0.03	-0.62	1.77
[SRSS_Levels=1.00]	-0.58	0.51	1.30	1.00	0.25	-1.57	0.41	0.56	0.21	1.51	-0.44	-0.79	0.51
[SRSS_Levels=2.00]	0.00							1.00	1.00	1.00	0.00	0.00	0.00

To address the research questions guiding this study I conducted ordinal logistic regression analysis. The predictor variables from the research questions were life stress, positive coping style, negative coping style, religious coping, health perceptions, age, and years in ministry. The results from the ordinal logistic regression analysis are shown in Table 12 and are summarized below for each research question.

Research Question 1: Life Stress (SRRS Levels)

The ordinal logistic regression results showed that life stress was not a statistically significant predictor of health outcomes ($p > .05$). Therefore, the null hypothesis was not rejected.

Research Question 2: Positive Cope Style (Brief COPE)

The ordinal logistic regression results showed that positive coping style was not a statistically significant predictor of health outcomes ($p = .083$). Therefore, the null hypothesis was not rejected.

Research Question 3: Negative Cope Style (Brief COPE)

The ordinal logistic regression results showed that negative coping style was a statistically significant predictor of health outcomes ($p = .003$). Therefore, the null hypothesis was rejected.

Research Question 4: Religious Cope Style (R COPE)

The ordinal logistic regression results showed that religious coping was not a statistically significant predictor of health outcomes ($p = .589$). Therefore, the null hypothesis was not rejected.

Research Question 5: Health Perceptions (SF-12)

The ordinal logistic regression results showed that health perception was not a statistically significant predictor of health outcomes ($p = .209$). Therefore, the null hypothesis was not rejected.

Research Question 6: Age

The ordinal logistic regression results showed that age was a statistically significant predictor of health outcomes ($p < .001$). Therefore, the null hypothesis was rejected.

Research Question 7: Years in Ministry

The ordinal logistic regression results showed that time in ministry was not a statistically significant predictor of health outcomes ($p > .05$). Therefore, the null hypothesis was not rejected.

Summary

Life stress, positive coping style, negative coping style, religious coping, health perceptions, age, and years in ministry were assessed using cumulative odds ordinal logistic regression with proportional odds to predict health outcomes (chronic disease). Both age and negative coping style were statistically significant predictors of health outcomes. Life stress, religious coping, health perceptions, and years in ministry were not significant predictors of actual health outcomes (chronic disease). In Chapter 5, I will present an interpretation of the findings, the limitations of the study, and recommendations for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative study was to determine whether life stress, positive and negative coping styles, religious coping, health perceptions, age, and years in ministry predict actual health outcomes (chronic disease) in Eastern Orthodox Clergy. Researchers have shown that life stress can impact actual health outcomes, such as chronic disease rates (Engelen et al., 2017; Herbert & Cohen, 1993; Holmes & Rahe, 1967; Kelly, et al., 2003). Clerical populations are influenced both physically and emotionally by chronic disease rates, including cardiovascular disease, obesity, diabetes, and cancer (Hill et al., 2003; Lindholm, Johnston, Dong, Moore, & Ablah, 2016; Masters & Hooker, 2013; Parker & Martin, 2011). Research indicates that clergy exhibit higher stress and mortality rates in relation to their nonclergy counterparts (Lindholm, Johnston, Dong, Moore & Ablah, 2016; Proeschold-Bell & LeGrand, 2012; Wells, 2012; Wells, 2013). Prior research has often focused on Western religious oriented clergy and failed to adequately identify specific factors influencing actual health outcomes (chronic disease), especially on Eastern oriented clergy.

The data were analyzed using ordinal logistic regression analysis. Results revealed that negative coping style and age are significant predictors of actual health outcomes (chronic disease). Life stress, positive coping style, religious coping, health perceptions, and years in ministry were not found to be significant predictors of actual health outcomes (chronic disease). In this chapter, I will discuss in great detail the findings of this research study in the interpretation of findings section. I will also discuss

the limitations of this study, followed by recommendations for future research and implications for social change. The chapter will end with conclusions for this study.

Interpretation of the Findings

Hypothesis 1: Life Stress

In this research, I found that life stress was not a significant predictor of actual health outcomes (chronic disease) in Eastern Orthodox Clergy. This result differs from previous researchers who found that life stress accounted for significant chronic disease development, such as cardiovascular disease, obesity, diabetes, depression, and anxiety (Banks, 2017; Pinquart & Sorensen, 2003; Schlotz, et al., 2011). Several researchers using various forms of regression analyses (e.g., ordinal logistic, linear, etc.) have indicated that life stress is a predictor of actual health outcomes, such as chronic disease (Banks, 2017; Herbert & Cohen, 1993; Holmes & Rahe, 1967; Kelly, et al., 2003). However, other researchers have indicated that minimal amounts of life stress can be beneficial to one's physical and psychological health and even result in higher rates of environmental adaptation and improved daily function (Banks, 2017; Gibbons, 2012; Onyigbuo, Alexis-Garsee & van den Akker, 2017; Sapolsky, 2004). The lack of significant findings of life stress in this study could be due to little or no change over time in the symptoms or behaviors associated with life stress in clergy members of the Eastern Orthodox Clergy. This lack of significant findings may suggest that the actual health outcomes (chronic disease) remain consistent over time, with life stress having no significant impact. As Salim, Liu, and Atrooz (2018) found, stress-resilience is enhanced

when experiencing consistent life stress, such as major losses, natural disasters, and environmental susceptibility. Therefore, increased occurrences of life stress, such as traumatic experiences and major life transitions among the clergy members of Eastern Orthodoxy, might lead to higher rates of resiliency, which could explain no significant development of chronic diseases, such as diabetes, obesity, anxiety, and depression.

Hypothesis 2: Positive Coping Style

In several studies, researchers have indicated that positive coping style was a predictor for actual health outcomes, such as chronic disease (Doolittle, 2007; Folkman & Lazarus, 1988; Guzman & Teh, 2016; Hagan, et al., 2017; Shin, et al., 2014). Positive coping style (e.g., active, positive reframing, emotional support, and acceptance) has been known to reduce or eliminate particular stressors, modify personal emotional reactions, and avoid particular stressors, so as to decrease pathology when consistently utilized (Folkman & Lazarus, 1988; Guzman & Teh, 2016; Hagan, et al., 2017).

Findings in this study indicated that positive coping style was not a significant predictor of actual health outcomes (chronic disease) in Eastern Orthodox Clergy. Previous researchers suggested that positive coping style has various manifestation components and is partially controlled by genetics, conditioning, traits, and stressor exposure (Carver, 1997; Carver & Connor-Smith, 2010; Folkman & Lazarus, 1988; Guzman & Teh, 2016; Hagan, et al., 2017). Employing positive coping style decreases risks of developing chronic diseases, such as cardiovascular disease, diabetes, obesity, cancer, and depression, over time (Folkman & Lazarus, 1988; Guzman & Teh, 2016).

Positive coping style uses both problem-focused and emotion-focused coping techniques that include active coping, positive reframing, emotional support, and acceptance (Bose, et al., 2015; Hagan, et al., 2017). For example, problem-focused coping style reduces or eliminates a particular stressor when appropriate (e.g., active coping and seeks emotional support) and emotion-focused coping changes the personal emotional reactions to decrease emotional responsiveness (e.g., positive reframing and acceptance) (Folkman & Lazarus, 1988; Guzman & Teh, 2016; Hagan, et al., 2017).

However, the findings of this study indicate that there is no significant relationship between positive coping style and actual health outcomes (chronic disease). Interestingly, this finding was contrary to prior research findings that indicated that the higher use of positive coping style would result in lower chronic disease rates (Carver, 1997; Carver & Conner-Smith, 2010; Folkman & Lazarus, 1988; Guzman & Teh, 2016; Hagan, et al., 2017). There may be several explanations for this contrary finding. First, there are demographic characteristics of the sample that might inform the results. For example, all participants in this study were males who were married. This may have influenced the results as research has shown that males are less likely to use positive coping strategies in response to life stress situations (Matud, 2004). Furthermore, married men are more likely to seek support from their spouse as a means of coping as opposed to using one of the studied positive copying styles (Gove, Hughes, & Style, 1983; Matud, 2004). Another possible explanation may be due to the cultural and ethnic composition of the sample. The majority of participants represent Eastern traditional nationalities such as

Greek, Antiochian, Russian, and Romanian. Culture plays a role in how individuals seek out or use coping styles (Hu, Bernardo, Lam, and Cheang, 2018). In Eastern traditional cultures, individuals are not encouraged to use positive coping mechanisms in response to stressful situations (Saroglou, 2002).

Row and Allen (2004) asserted that individuals who have chronic illnesses are more likely to use greater levels of positive coping style compared to individuals who do not have chronic illness and thus do not need to use positive coping styles. Row and Allen's assertion might be another plausible explanation as to why my research results indicated a nonsignificant relationship between rates of positive coping styles and chronic disease. Therefore, the clergy members of the Eastern Orthodox Church who do not experience multiple chronic illnesses until later in their lifetime, may have a lower need to use positive coping styles, such as active coping, positive reframing, and acceptance.

Another interpretation of my results that is contrary to the existing research may be due to the operational definition of positive coping style used in my study. The positive coping style measurement in my study was defined using previous research that only examined active coping, positive reframing, use of emotional support, and acceptance, as identified by Hagan et al. (2017). This definition of positive coping style did not differentiate amongst the other types of positive coping styles, such as use of instrumental support, venting, planning, humor, and religion (Carver, 1997). In the Brief COPE survey, positive coping ratings were representative of positive reframing, use of emotional support, active coping, and acceptance, and did not include other positive

coping styles. Additionally, I did not study the relationships between religious-oriented positive coping and specific life stressors, such as grief experienced as a result of major losses, including death of loved ones. According to Pargament, Feuille, and Burdzy (2011), a positive coping style, such as using religion to cope with various life stressors such as major losses enhances stress-resilience. Therefore, it may be that clergy members of the Eastern Orthodox Church experiencing life stressors, such as grief, use the religious-oriented positive coping style more than other positive coping styles; however, this relationship was not evaluated in this study.

Hypothesis 3: Negative Coping Style

In several studies, researchers have indicated that negative coping style was a predictor for actual health outcomes, such as chronic disease (Doolittle, 2007; Folkman & Lazarus, 1988; Guzman & Teh, 2016; Shin et al., 2014). Negative coping style (e.g., denial and self-blame) has been known to intensify particular stressors and emotional reactivity, so as to increase pathology when consistently utilized (Folkman & Lazarus, 1988; Guzman & Teh, 2016).

Findings in this study indicated that negative coping style (e.g., denial and self-blame) was a significant predictor of actual health outcomes (chronic disease) in Eastern Orthodox Clergy. As the negative coping style score increased, so did the scores on actual health outcomes. Specifically, Eastern Orthodox clergy who reported using more negative coping styles (e.g., denial and self-blame) also reported more actual health outcomes (including cardiovascular disease, obesity, diabetes, depression, and anxiety).

Using these results, I suggest that despite the experience of stressful situations, Eastern Orthodox Clergy who use negative coping style have steady increases in chronic disease rates.

Previous researchers suggested that negative coping style has various elements in its manifestation. Negative coping style is partially controlled by habitual traits, genetic predispositions, environmental conditioning, and contingent upon the environmental stressor being experienced (Carver, 1997; Carver & Connor-Smith, 2010; Folkman & Lazarus, 1988; Guzman & Teh, 2016). As found in my study, Eastern Orthodox clergy employing negative coping style (e.g., denial and self-blame) had increased risks of developing chronic diseases, such as cardiovascular disease, diabetes, obesity, cancer, and depression, over time, consistent with previous research (Folkman & Lazarus, 1988; Guzman & Teh, 2016). Subsequently, denial and self-blame are considered avoidant-oriented and significantly impact chronic disease rates (Bose, et al., 2015; Folkman & Lazarus, 1988; Guzman & Teh, 2016; Hagan, et al., 2017). Clergy members in my study reported higher rates of chronic disease when utilizing negative coping such as denial and self-blame, which supports previous findings.

Hypothesis 4: Religious Coping Style

Findings indicated that religious coping style was not a significant predictor of actual health outcomes (chronic disease) in Eastern Orthodox Clergy. These results differ from previous researchers that found that religious coping style predicted actual health outcomes, such as chronic disease, including cardiovascular disease, cancer, obesity, and

diabetes (Jegindo, et al., 2013; Pargament, 1997; Pargament, et al., 1998). These results are contradictory to previous research conducted by Masters and Hooker (2013) who found that (using the full RCOPE Scale in which the long version consists of 87 items) engaging in positive religious coping styles decreased cardiovascular disease and cancer risks, while engaging in negative religious coping styles increased the risk for chronic disease. The lack of alignment between my research study and these previous findings may be due to the fact that previous research used the long version of the RCOPE (consisting of 87 items) to evaluate the religious coping styles, instead of the Brief RCOPE (consisting of only 14 items) used in my study. Therefore, the differences between the long version and the short version of the RCOPE scale could account for this variance. Additionally, the sample of clergy in my study may be over or under-reporting their use of religious coping in relation to life stress, despite experiencing chronic disease. According to Wells (2013), clergy have a tendency to over-report use of religious coping skills due to societal perceptions and expectations of clerical piety. On the other hand, clergy under-report use of religious coping skills due to societal perceptions of humbleness and ego superiority experienced when working in the ministry (Wells, 2013). Contrastingly, Abdelsayed, Bustrum, Tisdale, Reimer and Camp (2013) found that religious coping among Coptic Orthodox clergy was not a significant predictor of health-related disorders. This research finding may suggest alignment with the lack of significance that I found in my study between religious coping and health outcomes in an Orthodox-related clergy population. Overall, the lack of significance in my research

findings between religious coping and actual health outcomes (chronic disease) may be due to individual clergy responses based on social perceptions, such as piety, humbleness, and ego superiority experienced in clergy vocations.

Hypothesis 5: Health Perceptions

Findings indicated that health perceptions were not significant predictors of actual health outcomes (chronic disease) in Eastern Orthodox Clergy. These results differ from previous researchers who found a correlation between health perceptions (physical and mental) and actual health outcomes, (e.g., cardiovascular disease, cancer, obesity, and diabetes; Idler & Benyamini, 1997; Onyigbuo, Alexis-Garsee & van den Akker, 2016; Shields & Shooshtari, 2001). The current results did not support previous research conducted by Benyamini, Leventhal, and Leventhal (2000) and Onyigbuo, Alexis-Garsee, and van den Akker (2016). These researchers found that individuals reporting lower optimistic health perceptions had higher rates of chronic disease, while individuals reporting higher optimistic rates on health perceptions had lower rates of chronic disease. In my current study's results, the lack of correlation between health perception and actual health outcomes among clergy may be due to the disconnect between clergy health perceptions and actual health outcomes, which involves an over or underestimation of health perceptions on actual health outcomes (Cutts, et al., 2012; Onyigbuo, Alexis-Garsee & van den Akker, 2016; Proeschold-Bell & LeGrand, 2012). The absence of accurate clerical views on their own personal health in relation to actual rates of chronic disease, such as diabetes, obesity, cardiovascular disease, anxiety, and depression, could

result in the absence of a significant relationship. Additionally, clergy exhibit optimistic views of health perceptions, which may be unrealistic to their actual health outcomes (Lindholm, Johnston, Dong, Moore & Ablah, 2016; Onyigbuo, Alexis-Garsee & van den Akker, 2016; Proeschold-Bell & Le Grand, 2012). Subsequently, clergy minimize and normalize their health conditions, such as obesity, diabetes, anxiety, and depression, which can result in misrepresentation of actual health outcomes. This misrepresentation may be a result of the negative impact actual health outcomes can have on their professional obligations and responsibilities to their parishioners (e.g., not being able to spiritually and emotionally support their parishioner needs and not being present to deliver the sermons).

Hypothesis 6: Age

It is commonly known that aging increases the risk of chronic disease, such as cardiovascular disease, cancer, diabetes, obesity, and depression (Davisson & Swanson, 2018; World Health Organization, 2015). Previous research has shown that chronological age in clerical populations is associated with higher levels of emotional health but lower physical health (Davisson & Swanson, 2018; Wells, 2013). In this study, age was found to be a significant predictor of actual health outcomes (chronic disease) in Eastern Orthodox Clergy. This suggests that as the clergy age, they are more likely to develop a chronic condition, such as cardiovascular disease, diabetes, cancer, and obesity. These findings coincide with previous research conducted by Davisson and Swanson (2018),

Lindholm, Johnston, Dong, Moore, and Ablah (2016), and Wells (2013) who identified that age is a significant indicator of clerical actual health outcomes (chronic disease).

Hypothesis 7: Years in Ministry

Years in ministry increases the risk of chronic disease, such as cardiovascular disease, cancer, diabetes, obesity, and depression (Davisson & Swanson, 2018; World Health Organization, 2015). Previous research has shown that years in ministry is associated with higher emotional functioning but lower physical functioning and mobility (Davisson & Swanson, 2018; Wells, 2013). In this study, years in ministry was not found to be a significant predictor of actual health outcomes (chronic disease) in Eastern Orthodox Clergy. In contrast to prior research, I did not find a significant relationship between years in ministry and actual health outcomes (chronic disease) (Davisson & Swanson, 2018; Wells, 2013). This may be due to the fact that clergy under report issues related to health and exhibit optimistic views of health (Lindholm, Johnston, Dong, Moore, & Ablah, 2016). Clergy minimize and normalize certain health conditions, such as obesity, diabetes, anxiety, and depression, which become more pronounced with extensive years in ministry leading to enhanced optimistic views of health (Lindholm, Johnston, Dong, Moore & Ablah, 2016). Researchers have found that clergy who serve in the ministry for more than fifteen years often view themselves as healthier than they really are, in relation to their chronic conditions, such as obesity, diabetes, cardiovascular, and cancer (Davisson & Swanson, 2018; Lindholm, Johnston, Dong, Moore, & Ablah, 2016). Therefore, lack of alignment between previous research and my

study examining years in ministry and actual health outcomes (chronic disease) may be due to my sample population exhibiting optimistic views of health.

Theoretical Framework and Research Findings

The theoretical framework for this study was self-regulation theory (SRT), which has been extensively used to study health outcomes (Muraven & Baumeister, 2000; Vohs & Ciarocco, 2004). Researchers using this theory assert the notion that positive, negative, and religious coping styles influence health outcomes, such as chronic disease. Aldwin, Park, Jeon and Nath (2014) argued that there is a need for an integrative theoretical model such as SRT when assessing positive and negative coping styles and religious coping. According to Muraven and Baumeister (2000), SRT is a system of conscious personal management involving guiding one's personal cognitions, actions, and emotions for goal attainment. SRT was the basis for this study, along with the assumption that health behaviors are subject to self-regulation because they involve individuals as active agents drawing on volitional processes for goal attainment (Baumeister, et al., 2007; de Ridder & de Wit, 2006). The results of this study aligned with this assumption and with SRT to provide an integrative theoretical model to assess the predictors including positive and negative coping styles and religious coping in Eastern Orthodox clergy.

Negative coping style and age were predictors of actual health outcomes, such as chronic disease. As negative coping style and age increased, so did rates of chronic disease (e.g., cardiovascular disease, diabetes, cancer, and obesity). According to Tougas, Hayden, McCrath, Huguet, & Rozario (2015), SRT is commonly applied to studying

chronic health conditions and symptomatology and examining environmental influences, life stress, and coping styles throughout the lifespan. Researchers studying and utilizing SRT posit that negative coping style, which includes denial and self-blame, results in feelings of guilt, which undermine well-being (Baumeister & Vohs, 2007). Additionally, impulse control in self-regulation involves the separation of immediate impulses and long-term desires, in order to plan, evaluate actions, and refrain from regrettable activities and behaviors (Tougas, Hayden, McCrath, Huguet, & Rozario, 2015). Research shows that self-regulation is a strength, necessary for emotional and physical well-being but begins to deplete when using negative coping styles as well as in the geriatric population (over the age of 65) (Baumeister & Vohs, 2007). In my study, older (over the age of 65) Eastern Orthodox clergy that employed negative coping style (e.g., denial and self-blame) reported higher rates of actual health outcomes (chronic disease, such as diabetes, obesity, anxiety, and depression). The results of my study, which showed that negative coping style (e.g., denial and self-blame) and age were predictors of actual health outcomes (chronic disease), align with self-regulation theory. According to SRT, when negative coping styles are used this can reduce the effectiveness of self-regulation and negatively impact or undermine physical well-being.

Limitations of the Study

There were several limitations to this study. The first limitation was generalizability of the results. Participants for this study were self-selected based upon convenience sampling from an online participant pool. Convenience sampling lacks the

generalizability of a random sample of participants. Though some demographic diversity did exist within the study population, there were several areas that lacked variability including clergy ethnicity and gender. In addition, everyone in the sample reported being married and having children. This makes generalizability to celibate clergy limited.

The second limitation of this study was response bias. The methodology used for this research was survey design, which allows self-report from participants. Participants were asked to respond truthfully in the instructions for completion. However, there is no way to determine whether participants responded honestly or responded in a manner to look more favorable, social desirability bias, which clergy are more prone to than other populations (Kane, 2008).

The third limitation of this study was the lack of ability to identify causality. Ordinal logistic regression is used to identify predictive relationships between independent variables and one dependent variable. This analytical model determines which independent variables predict the criterion or dependent variable. Since this was not an experimental design, causation could not be determined.

Potential confounds are also a limitation of this study. Parish location, years of marriage, number of children, income level, and spiritual father relationship could have impacted the results of this study. The study results did not account for differences on these variables among participants. For example, the location of the parish, urban location versus a rural location may have influenced rates of chronic illness, specific stressors, or access to certain coping mechanisms. Furthermore, the number of years a

priest has been married and the number of children he has may also have influenced his life stressors and in turn his rates of negative coping style. The variability in the spiritual father relationship that may exist across Eastern Orthodox Clergy may also be a consideration for further investigation. A spiritual father (i.e., a clergy person with several years' experience in the ministry) is assigned to clergy entering the field. As such, the relationship between the clergy and the spiritual father might inform how this particular clergy seeks out coping.

In addition, researcher bias may be a limitation. My prior and current professional affiliation in working with Eastern Orthodox Clergy as well as interacting with students who may be seeking to enter the clergy profession might have influenced my perspective on the interpretation of my results. Instrumentation may be another limitation, where factors such as question-order bias, may be present. This results in respondents basing their answers to subsequent questions on how they responded to previous questions. However, all surveys used in this study were reviewed for appropriate validity and reliability, based on utility in previous research.

Recommendations

The findings of this research study indicated that negative coping style and age were significant predictors of actual health outcomes (chronic disease) amongst Eastern Orthodox clergy; as negative coping style and age increases, chronic disease rates increase as well. The manner in which Eastern Orthodox Clergy utilize coping styles in response to life stressors was not examined. The application of the Brief COPE Inventory

and the other measurements reviewed in this research amongst Eastern Orthodox Clergy provide a solid foundation from which greater in-depth research is necessary to better understand how certain negative coping styles may impact chronic illness and actual health outcomes. This impact may also vary based on the composition of the participant sample.

Although the sample size was even higher than the recommended number of participants based upon power analysis, there was a lack of variability in the ethnicity and relationship status (celibacy) of participants. This limited generalizability of the research findings was due to lack of minority and celibate respondents. Future research should target minority and celibate populations, which were not well represented in this study to determine if there may be differences in the findings among these populations. Further research targeting celibate clergy would also help to identify if life stress, coping styles, religious coping, and health perceptions differs from that reported by married clergy.

I found that religious coping did not predict actual health outcomes (chronic disease). This was an unexpected result that did not align with previous research on religious coping, although it is important to note that this research is limited, particularly when measuring these variables in Eastern Orthodox Clergy. Therefore, additional research identifying potential mediating factors between religious coping and actual health outcomes (chronic disease) should be conducted. These potential mediating factors include but are not limited to: numbers of years married, number of children, socioeconomic level status, location of parish, and defining the spiritual father

relationship (Kreider, 2000). The spiritual father relationship impacts Eastern Orthodox clergy in relation to clerical and pastoral care functioning. Lacking a healthy spiritual father relationship can lead to increases in emotional and physical impairment (Kreider, 2000). Additionally, research should be conducted that can clearly determine whether positive or negative religious coping has a negative impact on the actual health outcome rates (chronic disease) for this population, or if this finding can only adequately be applied to non-Eastern Orthodox Clergy.

The collection of qualitative data on Eastern Orthodox Clergy would also benefit the limited research in this area. Because of the rich knowledge that can be retrieved from the Eastern Orthodox clergy via in depth interviews or a case study, a qualitative approach would be highly beneficial as a follow up study to this quantitative study. The qualitative study could be aimed at further investigating the findings of this study, which are contrary to the findings of previous research related to the utility rates of coping styles and rates of health outcomes. The feedback captured from clergy on their lived experience, as it relates to their working as an Eastern Orthodox Clergy may provide further insight into the challenges and obstacles they face in this profession resulting in life stress and consequently needing support. This in turn may better inform the specific channels of support in place for these clergy. Through the interview process, not only will first-hand experiences from Eastern Orthodox Clergy themselves be captured, but also first-hand experiences of those individuals who are responsible for overseeing the educational and pastoral care preparation process of individuals seeking to enter the

clergy profession. Qualitative feedback from this population of practitioners as well as parishioners and clergy families may also help to provide further first-hand insight as to how they perceive their interactions with clergy and identify ways in which to better support the clergy who provide support to their families and their parishioners.

Future research opportunities may also include studying stress-resilience in Eastern Orthodox Clergy when they experience life stress, such as major losses, traumatic experiences, and life transitions. This information would help to further inform how Eastern Orthodox Clergy respond to life stress. Furthermore, conducting additional research to expand the Brief COPE positive coping style used in my study (e.g., active coping, positive reframing, emotional support, and acceptance) to differentiate amongst the other types of positive coping styles that were not studied (e.g., instrumental support, venting, planning, and humor) may also be beneficial to better understanding the coping styles of this population. There may be another opportunity to study the specific effects that the use of religious-oriented positive coping has on specific life stressors, such as losses, grief, and trauma, which will further inform coping style utility of this clerical population. With regard to religious coping, as assessed by the Brief RCOPE, although my study did not find significance between religious coping and health outcomes in Eastern Orthodox clergy, this may be due to individual clergy responses based on social perceptions of clergy behavior, such as piety, humbleness, and ego superiority, experienced in clergy vocations. As such, future research assessing societal perceptions

of the clergy populations may help to provide insight into how society perceives clergy behavior and the phenomena of clerical optimistic health views.

Implications

The findings from this research provide several positive implications for social change at the individual, organizational, and societal levels. This research has provided additional foundation to the limited body of knowledge on actual health outcomes (chronic diseases) for Eastern Orthodox Clergy. Previous researchers have given attention to factors such as burnout rates, quality of life, spirituality, or empathy fatigue for clergy (Aldwin, Park, Jeong, & Nath, 2014; Chevalier, et al., 2015; Cutts, Gunderson, Lindholm, Johnston, Dong, Moore & Ablah, 2016; Proeschold-Bell, & Swift, 2012). There is limited research on various predictors, such as life stress, positive and negative coping styles, religious coping, and health perceptions and the impact on the actual health outcomes (chronic disease) on Eastern Orthodox clergy. Results from this study have helped to identify the impact that these predictor factors can have on actual health outcomes (chronic disease). In this study I identified implications for Eastern Orthodox clergy as well as for those practitioners who help to educate and prepare individuals for the priesthood and support them during their time in ministry.

Implications for Clergy

The finding that actual health outcomes (chronic disease) increases as coping styles increase was an unexpected finding that could provide implications for organizational and clerical practice. Educating clergy on the impact that their coping

styles and age could have on their relationship with their clergy families and parishioners could provide clergy with insight that they could use to improve the interactions that they have with their spiritual fathers, spiritual brothers, families, and parishes. Clergy are at greater risk of experiencing negative health outcomes compared to their nonclergy counterparts (Banks, 2017; Guzman & Teh, 2016; Lindholm, Johnston, Dong, Moore & Ablah, 2016; Wells, 2017). Improved clergy health could increase the quality of the parish relationships they have with their parishioners and amongst their spiritual brothers (clergy peers), thereby reducing incidents of parish dysfunction and abandonment. This could improve the overall quality of life for the clergy, their families, and their parishioners.

Implications for Educators of Clerical Preparation and Societal Awareness

Educational and religious organizations that serve parishioners may need to modify the content of their programming to include content that addresses actual health outcomes (chronic disease) and their potential relationships to clergy and liturgical roles to aide in the awareness of how actual health outcomes (chronic disease) and coping may be related in its application to life stress. Furthermore, the results may also help to raise awareness to the general population and parishioners, in better understanding how life stressors may influence chronic illness in Eastern Orthodox clergy. Administrators and those responsible for preparing individuals for the ministry profession may also benefit from these results in informing the academic and service programming to incorporate

greater levels of health education that may help future Eastern Orthodox clergy in their profession and interaction with parishioners.

Clergy, spiritual fathers, and those responsible for educating individuals for a future in the Eastern Orthodox Church, need to be aware that their individual pastoral approaches and specific pastoral care educational preparation programs have nuances that need to be taken into consideration. For example, Eastern Orthodox Clergy residing in the United States are allowed to marry and thus this carries a unique perspective to effectively preparing clergy to not only effectively and efficiently lead a parish but also personally deal with the life stressors inherent in married life.

An additional social change implication would be related to clerical policy development. Though there are policies to identify and reduce incidents of clerical boundary blurring and burnout, future policy development for fostering or ensuring the general welfare of clergy should find a way to identify those clergy who are at physical and emotional risk for developing chronic diseases, such as cardiovascular disease, diabetes, obesity, and anxiety and depression. This research may also be used to increase general awareness of the challenges that clergy face, such as the need for additional financial resources, academic, social supports, and stressors that clergy face due to difficulties associated with being spiritual leaders. It may also increase awareness of the implications of those challenges to the clergy and parishioner relationship quality, and the need for continuity of spiritual, emotional, and physical support for these clergy.

There are also positive implications for future theory development. Most of the theories established around health outcomes have focused on non-clerical development and aging processes. Additional variables such as cultural differences, socioeconomic status, and marital status may also need to be assessed to determine their impact on clerical health outcomes, in relation to stress, coping, and health perceptions.

Conclusion

This study was conducted to address the gap in literature on life stress, positive and negative coping styles, religious coping, and health perceptions on actual health outcomes (chronic disease) in married, Eastern Orthodox Clergy. Increases in technology and advancements in health care have led to increased numbers of individuals being diagnosed with some type of chronic condition, such as cardiovascular disease, diabetes, obesity, anxiety and depression (Davisson & Swanson, 2018). Clergy experience challenges, such as parishioner-related stress and ministry burnout that nonclergy may not face. Guzman and Teh (2016) found that clergy are at higher risk of developing chronic diseases compared to nonclergy counterparts. The relationship between negative coping styles and actual health outcomes can have an impact on how these chronic conditions develop. Previous researchers have provided limited insight on the impact that life stress, coping styles, religious coping, health perceptions, age, and years in ministry factors can have on the quality of health outcomes for clergy (Lindholm, Johnston, Dong, Moore & Ablah, 2016).

In this research study, I found that negative coping styles (e.g., denial and self-blame) and age were significant predictors of actual health outcomes (chronic disease) in clergy. Life stress, religious coping, health perceptions, and years in ministry, were not found to be predictors of actual health outcomes (chronic disease). Increases in negative coping style scores were found to lead to increases in actual health outcomes (chronic disease), which was an expected finding. Subsequently, increases in clerical age led to increases in actual health outcomes (chronic disease), which was also expected. These findings suggest there may be other mediating factors, such as social and familial support, spiritual father relationships, self-recognition and self-awareness, and interactions with parishioners that cause actual health outcomes (chronic disease) to maintain stable despite overall clerical stress levels.

Through this study, I have contributed to the body of knowledge on clerical actual health outcomes (chronic disease). It provides insights into the impact of negative coping style and age on chronic conditions in clergy as well as recommendations on how individuals working with this population may better prepare for such interactions. Specifically, the study reinforces the result that with age, chronic illness increases, amongst Eastern Orthodox Clergy and highlights how clergy age plays a role into this relationship amongst diverse clerical affiliations of ministry. Given the myriad of coping styles, this study provides a foundation for further in-depth research to investigate how specific styles of negative coping compared to coping style, broadly defined, might influence a clergy's actual health outcome.

The focus on understanding the unique clerical characteristics and challenges of married clergy is a priority to ensure this population is prepared to enter the profession of ministry. Regardless of the parish size, clergy are looked up to by parishioners and are expected to interact with all parishioners, not just on routine days of worship but on an as needed basis in dealing with the myriad of challenges and special occasions parishioners and their families encounter on a daily basis. This enhanced level of responsibility and obligation that clergy must meet further reinforces the need to further study this population and effectively prepare them and their families for Eastern Orthodox clergy work. Findings from this study can propel the work of future researchers to identify clerical health outcome strategies and interventions that would not only increase the quality of actual health outcomes for clergy but also provide a platform on to which educational preparation programming and supportive services during a clergy's time in ministry can be further enhanced.

References

Abdelsayed, L. M., Bustrum, J. M., Tisdale, T. C., Reimer, K. S. & Camp, C. A. (2013). The impact of personality on God image, religious coping, and religious motivation among Coptic Orthodox priests. *Mental Health, Religion & Culture, 16*(2), 155-172. Retrieved from https://doi.org/10.1080/13674676.2011.652604

Aldwin, C. M., Park, C. L., Jeong, Y., & Nath, R. (2014). Differing pathways between religiousness, spirituality, and health: A self-regulation perspective. *Psychology of Religion and Spirituality, 6*(1), 9-21. doi:10.1037/a0034416

American Psychological Association. (2010). Ethical principles of psychologists and code of conduct. Retrieved from http://www.apa.org/ethics/code/

Asamoah, M. K., Osafo, J., and Agyapoing, I. (2014). The role of Pentecostal clergy in mental health-care delivery in Ghana. *Mental Health, Religion & Culture, 17*(6), 601-614. doi:10.1080/13674676.2013.871628

Banks, A. (2017). Life in a fishbowl: Survey reveals stresses and joys of pastors' spouses. *Christian Century, 1*(1). Retrieved from https://www.christiancentury.org/article/news/life-fishbowl-survey-reveals-pastors\spouse-experiences

Barrett, D. H., Doebbeling, C. C., Schwartz, D. A., Voelker, M. D., Falter, K. H., Woolson, R. F., & Doebbeling, B. N. (2002). Posttraumatic stress disorder and self-reported physical health status among U.S. military personnel serving during

the gulf war period. *Psychosomatics, 43*(3), 195-205. doi:10.1176/appi.psy.43.3.195

Baumeister, R.F. & Vohs, K.D. (2007). Self-Regulation, Ego Depletion, and Motivation. *Social and Personality Psychology Compass,* 1(10), 1-14. doi: 10.1111/j.17519004.2007.00001.x

Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The Strength Model of Self-Control. *Current Directions in Psychological Science, 16*(6), 351-355. doi: 10.1111/j.1467-8721.2007.00534.x

Beckham, J. C., Moore, S. D., Feldman, M. E., Hertzberg, M. A., Kirby, A. C., & Fairbank, J. A. (1998). Health status, somatization, and severity of posttraumatic stress disorder in Vietnam combat veterans with posttraumatic stress disorder. *American Journal of Psychiatry, 155*(11), 1565-1569. doi: 10.1176/ajp.155.11.1565

Benyamini, Y., Leventhal, E. A., & Leventhal, H. (2000). Gender differences in processing information for making self assessments of health. *Psychosomatic Medicine, 62*(3), 354-64. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/10845349

Bradley, R., Schwartz, A. C., & Kaslow, N. J. (2005). Posttraumatic stress disorder symptoms among low-income, African American women with a history of intimate partner violence and suicidal behaviors: Self-esteem, social support, and

religious coping. *Journal of Traumatic Stress, 18* (6), 685–696. doi: 10.1002/jts.20077

Braveman, P. A., Cubbin, C., Egerter, S., Williams, D. R., & Pamuk, E. (2010). Socioeconomic disparities in health in the United States: What the patterns tell us. *American Journal of Public Health, 100*(S1), S186-S196. doi:10.2105/AJPH.2009.166082

Booker, L., & Mullan, B. (2013). Using the temporal self-regulation theory to examine the influence of environmental cues on maintaining a healthy lifestyle. *British Journal of Health Psychology,* 18, 745–762. doi:10.1111/bjhp.12015

Bose, C., N., Bjorling, G., Elfstrom, M. L., Persson, H., & Saboonchi, F. (2015). Assessment of coping strategies and their associations with health related quality of life in patients with chronic heart failure: The Brief COPE restructured. *Cardiology Review Journal, 6*(2), 239-248. doi: 10.14740/cr385w

Boslaugh, S. & Watters, P. A. (2008). *Statistics in a nutshell: A desktop quick reference.* California: O'Reilly Media, Inc. – These three citations are STILL out of correct Calderon, R., Schneider, R. H., Alexander, C. N., Myers, H. F., Nidich, S. I., & Haney, C. (1999). Stress, stress reduction and hypercholesterolemia in African Americans: A review. *Ethnicity & Disease, 9*(1), 451–462. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/10600068

Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine, 4(*1), 92-100. doi:10.1207/s15327558ijbm0401_6

Carver, C. S., & Connor-Smith, J. (2010). Personality and Coping. *Annual Review of Psychology, 61*, 679–704. doi:10.1146/annurev.psych.093008.100352

Center for Disease Control & Prevention. (2016). Cancer prevention and control. Retrieved from https://www.cdc.gov/cancer/

Center for Disease Control & Prevention. (2016). Heart disease facts and statistics. Retrieved from http://www.cdc.gov/heartdisease/statistics.htm

Cheak-Zamora, N. C., Wyrwich, K., W., & McBride, T. D. (2009). Reliability and validity of the SF-12v2 in the medical expenditure panel survey. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care, and Rehabilitation, 18*(6), 727-735. doi: 10.1007/s11136-009-9483-1

Chevalier, L, Goldfarb, E., Miller, J., Hoeppner, B., Gorrindo, T., & Birnbaum, R. J. (2015). Gaps in preparedness of clergy and healthcare providers to address mental health needs of returning service members. *Journal of Religion and Health, 54*, 327-338. doi:10.1007/s10943-014-9917-0

Cohen, S., Frank, E., Doyle, W. J., Skoner, D. P., Rabin, B. S., Gwaltney, J. M. (1998). Types of stressors that increase susceptibility to the common cold in healthy adults. *Health Psychology, 17*(3), 211–213. Retrieved from http://www.psy.cmu.edu/~scohen/types%20of%20stressors.pdf

Cohen, S., Janicki-Deverts, D., & Miller, G. E. (2007). Psychological stress and disease. *Journal of American Medical Association, 298*(14), 1685–1687. doi:10.1001/jama.298.14.1685.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Los Angeles, CA: Sage.

Cutts, T. F., Gunderson, G. R., Proeschold-Bell, R., & Swift, R. (2012). The life of leaders: An intensive health program for clergy. *Journal of Religion & Health, 51*(4), 1317-1324. doi:10.1007/s10943-010-9436-6

Dantzer, R. (2009). Cytokine, sickness behavior, and depression. *Immunology & Allergy Clinics, 29*(2), 247–264. doi:10.1016/j.iac.2009.02.002.

Davisson, E. A. & Swanson, E. A. (2018). Patient and nurse experiences in rural chronic disease management program: A qualitative evaluation. *Professional Case Management, 23*(1), 10-18. doi:10.1097/NCM.000000000000244.

De Boer, J. C., Lok, A., Verlaat, E., Duivenvoorden, H. J., Bakker, A. B., Smit, B. J. (2011). Work-related critical incidents in hospital-based health care providers and the risk of post-traumatic stress symptoms, anxiety, and depression: A meta-analysis. *Social Science & Medicine, 73*(2011), 316–326. doi:10.1016/j.socscimed.2011.05.009.

de Ridder, T. D. & de Wit, B. F. (2006). *Self-regulation in health behavior*. John Wiley & Sons, Inc.

Doolittle, B. R. (2007). Burnout and coping among parish-based clergy. *Mental Health,*

Religion & Culture, 10(1), 31-38. doi:10.1080/13674670600857591

Eastern Orthodox Clergy Yearbook (2016). Retrieved from http://www.goarch.org/archdiocese/yearbook/2016yearbook.pdf

Engelen, L., Gale, J., Chau, J. Y., Hardy, L. L., Mackey, M., Johnson, N., Shirley, D. & Bauman, A. (2017). Who is at risk of chronic disease? Associations between risk profiles of physical activity, sitting and cardio-metabolic disease in Australian adults. *Australian and New Zealand Journal of Public Health, 41(*2), 178-183. doi: 10.1111/1753-6405.12627.

Fadgyas-Stanculete, M., Dumitrascu, D. L, Pojoga, C., & Nedelcu, L. (2015). Coping strategies and dysfunctional cognitions as predictors of irritable bowel syndrome diagnosis. *Journal of Evidence-Based Psychotherapies, 15*(1), 111-120.Retrieved from http://eds.a.ebscohost.com.ezp.waldenulibrary.org/eds/pdfviewer/pdfviewer?sid=7bac5dee-b192-4caf-9b14-2272df234b4f%40sessionmgr4008&vid=2&hid=4102

Farivar, S. S., Cunningham, W. E., & Hays, R. D. (2007). Correlated physical and mental health summary scores for the SF-36 and SF-12 Health Survey. *Health and Quality of Life, 5*(54), 1-8. doi:10.1186/1477-7525-5-54

Faul, F., Erdfelder, E., Lang, A.G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191. Retrieved from

http://www.gpower.hhu.de/fileadmin/redaktion/Fakultaeten/Mathematisch-Naturwissenschaftliche_Fakultaet/Psychologie/AAP/gpower/GPower3-BRM-Paper.pdf

Fenton-O'Creevy, M., Nicholson, N., Soan, E., & Willman, P. (2003). Trading on illusions: Unrealistic perceptions of control and trading performance. *Journal of Occupational and Organizational Psychology, 76*(1). 53-68. doi: 10.1348/096317903321208880

Field, A.P. (2013). *Discovering statistics using IBM SPSS statistics: and sex and drugs and rock'n'roll.* London, England: Sage Publications, Incorporated.

Folkman, S. & Lazarus, R. S. (1988). Coping as a mediator of emotion. *Journal of Personality and Social Psychology, 54*(3), 466–75. doi:10.1037/0022-3514.54.3.466

Frankfort-Nachmias, C., &Nachmias, D. (2008). *Research methods in the social sciences (7th edition.).*New York: Worth.

Gerst, M. S., Grant, I., Yager, J., Sweetwood, H. (1978). The reliability of the social readjustment rating scale: Moderate and long-term stability. *Journal of Psychosomatic Research, 22*(6), 519–523. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/750662

Gibbons, C. (2012). Stress, positive psychology and the National Student Survey. *Psychology Teaching Review. 18*(2), 22–30. Retrieved from http://files.eric.ed.gov/fulltext/EJ991405.pdf

Gove, W.R., Hughes, M., & Style, C.B. (1983). Does marriage have positive effects on the psychological well-being of the individual? *Journal of Health and Social Behavior*, *24*(2), 122-13. doi: 10.2307/2136639

Gravetter, F. J. & Wallnau, L. B. (2009). *Statists for the behavioral sciences, 8th ed.* California: Wadsworth.

Grosch, W. N., & Olsen, D. C. (2000). Clergy burnout: An integrative approach. *Journal of Clinical Psychology, 56*(5), 619-632. doi: 10.1002/(SICI)1097-4679(200005)56:5<619::AID-JCLP4>3.0.CO;2-2

Guyatt, G. H., Oxman, A. D., Kunz, R., Vist, G. E., Falck-Ytter, Y., Schünemann, H. J. (2008). What is "quality of evidence" and why is it important to clinicians? *British Medical Journal, 336*(7651), 995–998. doi:10.1136/bmj.39490.551019.BE.

Guzman, N.E.Q. & Teh, L. A. (2016). Understanding the stresses and coping resources of Filipino clergy families: A multiple-case study. *Pastoral Psychology, 65*(4), 459-480. doi:10.1007/s11089-016-0698-0.

Hagan, T. L., Fishbein, J. N., Nipp, R. D., Jacobs, J. M., Traeger, L., Irwin, K. E., Pirl, W. F., Greer, J. A., Park, E. R., Jackson, V. A. & Temel, J. S. (2017). Coping in patients with incurable lung and gastrointestinal cancers: A validation study of the Brief COPE. *Journal of Pain and Symptom Management, 53*(1), 131-138. Retrieved from https://doi.org/10.1016/j.jpainsymman.2016.06.005.

Herbert, T. B., & Cohen, S. (1993). Stress and immunity in humans: A meta-analytic

review. *Psychosomatic Medicine, 55*(4), 364–379. doi:10.1097/00006842-199307000-00004.

Hill, E. W., Darling, C. A., & Raimondi, N. M. (2003). Understanding boundary-related stress in clergy families. *Marriage & Family Review, 35*(1), 1-2.

Holmes, T. H. & Rahe, R. H. (1967). The Social Readjustment Rating Scale. *Journal of Psychosomatic Research, 11*(2), 213–8. doi:10.1016/0022-3999(67)90010-4

Horn, S. D., & Gassaway, J. (2007). Practice-based evidence study design for comparative effectiveness research. *Medical Care, 45*(10), S50–7. doi:10.1097/MLR.0b013e318070c07b.

Hu, Q., Bernardo, B. I., Lam, S. W., & Cheang, P. K. (2018). Individualism-Collectivism Orientations and Coping Styles of Cyberbullying Victims in Chinese. *Current Psychology, 37*(1), 65–72. doi: https://doi.org/10.1007/s1214.

Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: A review of twenty-seven community studies. *Journal of Health and Social Behavior, 38*, 21-37. Retrieved from http://eds.a.ebscohost.com.ezp.waldenulibrary.org/eds/pdfviewer/pdfviewer?vid=6&sid=7bac5dee-b192-4caf-9b14-2272df234b4f%40sessionmgr4008&hid=4102

Jegindø, E-M. E., Vase, L., Skewes, J., Juul Terkelsen, A., Hansen, J., Geertz, A. W., & Jensen, T. S. (2013). Expectations contribute to reduced pain levels during prayer in highly religious participants. *Journal of Behavioral Medicine, 36*(4), 413-426. DOI: 10.1007/s10865-012-9438-9

Jeronimus, B. F., Ormel, J., Aleman, A., Penninx, B. W. J. H., & Riese, H. (2013). Negative and positive life events are associated with small but lasting change in neuroticism. Psychological Medicine, 43(11), 2403–2415. doi:10.1017/S0033291713000159. PMID 23410535.

Jeronimus, B. F., Riese, H., Sanderman, R., & Ormel, J. (2014). Mutual reinforcement between neuroticism and life experiences: A five-wave, 16-year study to test reciprocal causation. *Journal of Personality and Social Psychology, 107*(4), 751–64. doi:10.1037/a0037009.

Jordan, K. D., Masters, K. S., Hooker, S. A., Ruiz, J. M., & Smith, T. W. (2014). An interpersonal approach to religiousness and spirituality: Implications for health and well-being. *Journal of Personality, 82*(5), 418-431. DOI: 10.1111/jopy.12072

Kane, M. N. (2008). Investigating attitudes of Catholic priests toward the media and the US Conference of Catholic Bishops response to the sexual abuse scandals of 2002. *Mental Health, Religion, & Culture. 11*(6), 579-595. Retrieved from https://doi.org/10.1008/13674670701746933

Kelley, K. W., Bluthé, R. M., Dantzer, R., Zhou, J. H., Shen, W. H., Johnson, R. W., & Broussard, S. R. (2003). *Cytokine-induced sickness behavior. Brain, Behavior & Immunity, 17*(1), S112–8. doi:10.1016/S0889-1591(02)00077-6.

Kemeny, M. E. (2003). The psychobiology of stress. *Current Directions in Psychological Science, 12*(4), 124–129. Retrieved from http://dx.doi.org/10.1111/1467-8721.01246

Kingston, C. & Schuurmans-Stekhoven, J. (2016). Life hassles and delusional ideation: Scoping the potential role of cognitive and affective mediators, *Psychology and Psychotherapy: Theory, Research and Practice*. *89*(4), 445-463. doi: 10.1111/papt.12089

Komaroff, A. L., Masuda, M., & Holmes, T. H. (1968). The social readjustment rating scale: A comparative study of Negro, Mexican and white Americans. *Journal of Psychosomatic Research, 12*(2), 121–8. Retrieved from http://dx.doi.org.ezp.waldenulibrary.org/10.1016/0022-3999(68)90018-4

Kreider, L. (2000). *The Cry for Spiritual Fathers & Mothers*. Dove Christian Fellowship International.

Krindatch, A. (2011). *Atlas of American Orthodox Christian Churches*. Brookline, MA: Holy Cross Orthodox Press.

Leedy, P. D., & Ormrod, J. E. (2010). *Practical research: Planning and design* (9th ed.). Boston, MA: Pearson.

Lewis, C. A., Maltby, J., & Day, L. (2005). Religious orientation, religious coping and happiness among UK adults. *Personality & Individual Differences, 38*(5), 1193–1202. doi: 10.1016/j.paid.2004.08.002

Lindholm, G., Johnston, J., Dong, F., Moore, K. & Ablah, E. (2016). Clergy wellness: An assessment of perceived barriers to achieving healthier lifestyles. *Journal of Religion & Health, 55*(1), 97-109. doi:10.1007/s10943-014-9976-2.

Lopez-Vazquez, E., & Marvan, M. L. (2003). Risk perception, stress, and coping

strategies in two catastrophe risk situations. *Social Behavior and Personality, 31*(1), 61-70. doi:10.2224/sbp.2003.31.1.61

Mahmoud, J. R. R., Staten, R., Lennie, T. A., & Hall, L. A. (2015). The relationships of coping, negative thinking, life satisfaction, social support, and selected demographics with anxiety of young adult college students. *Journal of Child and Adolescent Psychiatric Nursing, 28*(2), 97-108. Doi:10.1111/jcap.12109

Malterud, K. (2001). The art and science of clinical knowledge: evidence beyond measures and numbers. *Lancet, 358*(9279), 397–400. doi:10.1016/S0140-6736(01)05548-9.

Masters, K. S., & Hooker, S. A. (2013). Religiousness/spirituality, cardiovascular disease, and cancer: Cultural integration for health research and intervention. *Journal of Counseling and Clinical Psychology, 81*(2), 206-216. doi:10.1037/a0030813

Masters, K. S, & Knestel, A. (2011). Religious motivation and cardiovascular reactivity among middle aged adults: Is being pro-religious really that good for you? *Journal of Behavioral Medicine, 34*(6), 449-461. doi:10.007/s10865-011-9352-6

Matud, M.P. (2004). Gender differences in stress and coping. *Personality and Individual Differences*, *37*(7), 1401-1415. Retrieved from https://doi:org/10.1016/j.paid.2004.01.010

Menard, S. (2009). *Logistic regression: From introductory to advanced concepts and applications.* Sage Publications. Thousand Oaks, CA.

Miles, J., & Shevlin, M. (2007). *Applying regression & correlation: A guide for students and researchers.* Thousand Oaks, CA: Sage.

Miller, G., Chen, E., & Cole, S. W. (2009). Health psychology: Developing biologically plausible models linking the social world and physical health. *Annual Review of Psychology, 60,* 501–524. doi:10.1146/annurev.psych.60.110707.163551.

Mohammadzadeh, A. & Najafi, M. (2016). Factor analysis and validation of the Brief Religious Coping Scale (Brief-RCOPE) in Iranian university students. *Mental Health, Religion & Culture, 19*(8), 911-919. Doi:10.1080/13674676.2017.1282445

Muraven, M. & Baumeister, R. (2000). Self-Regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin, 126*(2), 247-259. doi:10.1037/0033-2909.126.2.247

Ogden, J. (2007). *Health Psychology: A textbook* (4th ed.). New York: McGraw-Hill

Onyigbuo, C. C., Alexis-Garsee, C. & van den Akker, O. (2017). Nigerian clergy and healthcare professionals' perceptions of health-seeking behaviors among Nigerian immigrants in the UK. *Mental Health, Religion & Culture, 19*(10), 1043-1055. doi:10.1080/13674676.2017.1312320.

Pargament, K. I. (1997). *The psychology of religion and coping: Theory, research, practice.* New York: Guilford Press.

Pargament, K. I. (2007). *Spiritually integrated psychotherapy: Understanding and addressing the sacred.* New York: Guilford Press.

Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, H. (1998). Patterns of positive and negative religious coping with major life stressors. *Journal for the Scientific Study of Religion, 37*(4), 710-724. Retrieved from http://eds.a.ebscohost.com.ezp.waldenulibrary.org/eds/pdfviewer/pdfviewer?sid=7bac5dee-b192-4caf-9b142272df234b4f%40sessionmgr4008&vid=17&hid=4102

Pargament, K. I., Ano, G. G., & Wachholtz, A. B. (2005). The religious dimension of coping: Advances in theory, research, and practice. In R. F. Paloutzian & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (pp. 479–495). New York: Guilford Press.

Pargament, K., Feuille, M., & Burdzy, D. (2011). The Brief RCOPE: Current psychometric status of a short measure of religious coping. *Religions, 2*(1), 51-76. doi: 10.3390/rel2010051

Pargament, K. I., Koenig, H. G., & Perez, L. M. (2000). The many methods of religious coping: Development and initial validation of the RCOPE. *Journal of Clinical Psychology, 56*, 519–543. Retrieved from http://eds.a.ebscohost.com.ezp.waldenulibrary.org/eds/pdfviewer/pdfviewer?vid=19&sid=7bac5dee-b192-4caf-9b14-2272df234b4f%40sessionmgr4008&hid=4102

Parker, P. D., & Martin, A. J. (2011). Clergy motivation and occupational well-being: Exploring a quadripolar model and its role in predicting burnout and engagement. *Journal of Religion and Health, 50*(3), 656-674. doi:10.1007/s10943-009-9303-5

Pastorino, E. & Doyle-Portillo, S. (2009). *What is Psychology?* 2nd Ed. Belmont, CA: Thompson Higher Education.

Piderman, K.M., Schneekloth, T.D., Pankratz, V.S., Maloney, S.D., & Altchuler, S. I. (2007). Spirituality in alcoholics during treatment. *American Journal on Addictions, 16*(3), 232–237. doi:10.1080/10550490701375616

Pinquart, M. & Sörensen, S. (2003). Differences between caregivers and noncaregivers in psychological health and physical health: A meta-analysis. *Psychology and Aging, 18*(2), 250–267. doi:10.1037/0882-7974.18.2.250.

Proeschold-Bell, R., & LeGrand, S. (2012). Physical health functioning among united Methodist clergy. *Journal of Religion & Health, 51*(3), 734-742. doi:10.1007/s10943-010-9372-5

Rahe, R. H., Mahan, J. L., & Arthur, R. J. (1970). Prediction of near-future health change from subjects' preceding life changes. *Journal of Psychosomatic Research, 14*(4): 401–406. doi:10.1016/0022-3999(70)90008-5

Ramage-Morin, P. L. (2006). Successful aging in health care institutions. *Health Reports: Statistics Canada, 16*(1), 47-56.

Reynolds, M. (2008). Stress in health and disease. *Yale Journal of Biology and Medicine, 81*(1), 53–54. Retrieved from http://medicine.yale.edu/yjbm/

Robles, T. F., Slatcher, R. B., Trombello, J. M., & McGinn, M. (2014). Marital quality and health: A meta-analytic review. *Psychological Bulletin, 140*(1), 140–87. doi:10.1037/a0031859

Rowe, M.M. & Allen, R.G. (2004). Spirituality as a means of coping with chronic illness. *American Journal of Health Studies, 19*(1), 62-67. Retrieved from www.biomedsearch.com/article/Spirituality-as-means-coping-with/115495864.html

Salim, S., Liu, H., & Atrooz, F. (2018). P-395 - Early life stress, stress-resilience/susceptibility and oxidative stress. *Free Radical Biology and Medicine, 120*(1), S165. doi:org/10.1016/j.freeradbiomed.2018.04.542

Sapolsky, R. M. (2004). *Why zebras don't get ulcers.* New York: St. Martins Press.

Saroglou, V. (2002). Religion and the five factors of personality: a meta-analytic review. *Personality and Individual Differences, 32*(1), 15-25. Retrieved from https://doi.org/10.1016/S0191-8869(00)00233-6

Schanowitz, J. Y., & Nicassio, P.M. (2006). Predictors of positive psychosocial functioning of older adults in residential care facilities. *Journal of Behavioral Medicine, 29*(2), 191–201.doi: 10.1007/s10865-005-9034-3

Schlotz, W., Yim, I. S., Zoccola, P. M., Jansen, L., & Schulz, P. (2011). The perceived stress reactivity scale: Measurement invariance, stability, and validity in three countries. *Psychological Assessment, 23*(1), 80–94. doi: 10.1037/a0021148

Schneiderman, N., Ironson, G., & Siegel, S. D. (2005). Stress and health: Psychological, behavioral, and biological determinants. *Annual Review of Clinical Psychology, 1*, 607–628. doi:10.1146/annurev.clinpsy.1.102803.144141.

Schry, A. R., Rissling, M. B, Gentes, E., Beckham, J. C., Kudler, H. S., Straits-Tröster, K., & Calhoun, P. S. (2015). The relationship between posttraumatic stress symptoms and physical health in a survey of U.S. veterans of the Iraq and Afghanistan Era. *Psychosomatics, 56*(6), 674–684. doi: 10.1016/j.psym.2015.07.010

Scully, J. A., & Tosi, H. (2000). Life event checklists: Revisiting the social readjustment rating scale after 30 years. *Educational and Psychological Measurement, 60*(6), 864-876. Retrieved from http://journals.sagepub.com.ezp.waldenulibrary.org/doi/pdf/10.1177/0013164002 1970952

Shields, M., & Shooshtari, S. (2001). Determinants of self-perceived health. *Health Reports, 13*(1), 35-52. Retrieved from http://eds.a.ebscohost.com.ezp.waldenulibrary.org/eds/pdfviewer/pdfviewer?vid=37&sid=7bac5dee-b192-4caf-9b14-2272df234b4f%40sessionmgr4008&hid=4102

Shin H., Park Y., Ying J., Kim B., Noh H., Lee S. (2014). Relationships between coping strategies and burnout symptoms: A meta-analytic approach. *Professional Psychology: Research and Practice, 45*, 44–56. doi:10.1037/a0035220

Simon, M. K. (2006). *Dissertation and scholarly research: A practical guide to start and complete your dissertation, thesis, or formal research project*. Dubuque, IA: Kendall/Hunt.

Singleton, R. A., & Straits, B. C. (2005). *Approaches to social research* (4th ed.). New York: Oxford University Press.

Snyder, C..R. & Lefcourt, H. M. (2001). *Coping with stress*. New York: Oxford University.

Spitzer, W. J., & Burke, L. (1993). A critical-incident stress debriefing program for hospital-based health care personnel. *Health & Social Work, 18*(2), 149–156. doi:10.1093/hsw/18.2.149.

Stevens, J. P. (2009). *Applied multivariate statistics for the social sciences* (5th ed.). Mahwah, NJ: Routledge Academic.

Tabachnick, B.G. & Fidell, L.S. (2007). *Using Multivariate Statistics, 5th ed.* Boston: Allyn and Bacon.

Tougas, M. E., Hayden, J. A., McGrath, P. J., Huguet, A., & Rozario, S. (2015). A systematic review exploring the social cognitive theory of self-regulation as a framework for chronic health condition interventions. *PLoS ONE, 10*(8), 1-20, doi:10.1371/journal.pone.0134977

Trevino, K. M., & McConnell, T. R. (2014). Religiosity and religious coping in patients with cardiovascular disease: Change over time and associations with illness adjustment. *Journal of Religion and Health, 53*(6), 1907-1917. doi:10.1007/s10943-014-9897-0

Tsevat, J., Leonard, A.C., Szaflarski, M., Sherman, S. N., Cotton, S., Mrus, J. M., &

Feinberg, J. (2009). Change in quality of life after being diagnosed with HIV: A multicenter longitudinal study. *AIDS Patient Care & STDS, 23*(11), 931–937. doi:10.1089=apc.2009.0026

U.S. Department of Health and Human Services. (2008). Centers for Disease Control and Prevention, National Center for Health Statistics, 2008. Summary Health Statistics for the U.S. Population: National Health Interview Survey, 2007. Retrieved from https://www.cdc.gov/nchs/data/series/sr_10/sr10_242.pdf

Van Dyke, C. J., Glenwick, D. S., Cecero, J. J., & Kim, S. (2009). The relationship of religious coping and spirituality to adjustment and psychological distress in urban early adolescents. *Mental Health, Religion & Culture, 12*(4), 369–383.doi: 10.1080/13674670902737723

Vohs, K. D., Baumeister, R. F., & Ciarocco, N. J. (2005). Self-regulation and self presentation: Regulatory resource depletion impairs impression management and effortful self-presentation depletes regulatory resources. *Journal of Personality and Social Psychology, 88,* 632 - 657. doi: 10.1037/0022-3514.88.4.632

Vohs, K. D., & Ciarocco, N. J. (2004). *Interpersonal functioning requires self-regulation.* New York: Guilford Press.

Vohs, K. D., & Heatherton, T. F. (2000). Self-regulatory failure: A resource-depletion approach. *Psychological Science, 11,* 249-254. Retrieved from

http://eds.a.ebscohost.com.ezp.waldenulibrary.org/eds/pdfviewer/pdfviewer?vid=48&sid=7bac5dee-b192-4caf-9b14-2272df234b4f%40sessionmgr4008&hid=4102

Walters, S. J. (2004). Sample size and power estimation for studies with health related quality of life outcomes: A comparison of four methods using the SF-36. *Health and Quality of Life Outcomes, 2*(26). Retrieved from https://hqlo.biomedcentral.com/articles/10.1186/14777525-2-26

Ward, B. W., & Black, L. I. (2016). State and regional prevalence of diagnosed multiple chronic conditions among adults aged ≥18 Years - United States, 2014. *Morbidity and Mortality Weekly Report, 65*(29), 735–738. doi:10.15585/mmwr.mm6529a3.

Ware, J., Kosinski, M., & Keller, S. D. (1996). A 12-Item short form health survey: Construction of scales and preliminary tests of reliability and validity. *Medical Care, 34*(3), 220-233.

Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/8628042

Weiten, W. & Lloyd, M. A. (2008) *Psychology applied to modern life* (9th edition). Wadsworth Cengage Learning.

Wells, C. R. (2012). The relationship between work-related stress and boundary-related stress among clerical families. *Journal of Religion & Health, 51*(1), 215–30. doi: 10.1007/s10943-011-9501-9

Wells, C. R. (2013). The effects of work-related and boundary-related stress on the emotional and physical health status of ordained clergy. *Pastoral Psychology,*

62(1), 101-114.doi: 10.1007/s11089-012-0455-y

Westfall, P.H., & Henning, K. S. S. (2013). *Texts in statistical science: Understanding advanced statistical methods*. Boca Raton, FL: Taylor & Francis.

World Health Organization. (2015). World Health Statistics Retrieved from http://www.who.int/gho/publications/world_health_statistics/2015/en/

World Health Organization. (2015). Stress at the workplace. Retrieved from http://www.who.int/occupational_health/topics/stressatwp/en/

Yusoff, N., Low, W. Y., & Yip, C. H. (2010). Reliability and validity of the Brief Cope Scale (English version) among women with breast cancer undergoing treatment of adjuvant chemotherapy: A Malaysian study. *Medical Journal of Malaysia, 65*(1), 41-44. Retrieved from http://www.e-mjm.org/2010/v65n1/Brief_COPE_Scale.pdf

Zimbardo, P. G., Weber, A. L., & Johnson, R. L. (2004). *Psychology: Core concepts* (4th Edition). North Carolina: Allyn & Bacon.

Appendix A: The Social Readjustment Rating Scale

The Holmes-Rahe Life Stress Inventory

The Social Readjustment Rating Scale

INSTRUCTIONS: Mark down the point value of each of these life events that has happened to you during the previous year. Total these associated points.

Life Event	Mean Value
1. Death of spouse	100
2. Divorce	73
3. Marital Separation from mate	65
4. Detention in jail or other institution	63
5. Death of a close family member	63
6. Major personal injury or illness	53
7. Marriage	50
8. Being fired at work	47
9. Marital reconciliation with mate	45
10. Retirement from work	45
11. Major change in the health or behavior of a family member	44
12. Pregnancy	40
13. Sexual Difficulties	39
14. Gaining a new family member (i.e.. birth, adoption, older adult moving in, etc)	39
15. Major business readjustment	39
16. Major change in financial state (i.e.. a lot worse or better off than usual)	38
17. Death of a close friend	37
18. Changing to a different line of work	36
19. Major change in the number of arguments w/spouse (i.e.. either a lot more or a lot less than usual regarding child rearing, personal habits, etc.)	35
20. Taking on a mortgage (for home, business, etc..)	31
21. Foreclosure on a mortgage or loan	30
22. Major change in responsibilities at work (i.e. promotion, demotion, etc.)	29
23. Son or daughter leaving home (marriage, attending college, joined mil.)	29
24. In-law troubles	29
25. Outstanding personal achievement	28
26. Spouse beginning or ceasing work outside the home	26
27. Beginning or ceasing formal schooling	26
28. Major change in living condition (new home, remodeling, deterioration of neighborhood or home etc.)	25
29. Revision of personal habits (dress manners, associations, quitting smoking)	24
30. Troubles with the boss	23
31. Major changes in working hours or conditions	20
32. Changes in residence	20
33. Changing to a new school	20
34. Major change in usual type and/or amount of recreation	19
35. Major change in church activity (i.e.. a lot more or less than usual)	19
36. Major change in social activities (clubs, movies,visiting, etc.)	18
37. Taking on a loan (car, tv,freezer,etc)	17
38. Major change in sleeping habits (a lot more or a lot less than usual)	16
39. Major change in number of family get-togethers ("")	15
40. Major change in eating habits (a lot more or less food intake, or very different meal hours or surroundings)	15
41. Vacation	13
42. Major holidays	12
43. Minor violations of the law (traffic tickets, jaywalking, disturbing the peace, etc)	11

Now, add up all the points you have to find your score.

150pts or less means a relatively low amount of life change and a low susceptibility to stress-induced health breakdown.

150 to 300 pts implies about a 50% chance of a major health breakdown in the next 2 years.

300pts or more raises the odds to about 80%, according to the Holmes-Rahe statistical prediction model.

Appendix B: Brief COPE Inventory

Brief COPE (Carver, 1997)

These items deal with ways you've been coping with the stress in your life. There are many ways to try to deal with problems. These items ask what you've been doing to cope with stressors. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all
2 = I've been doing this a little bit
3 = I've been doing this a medium amount
4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

Appendix C: Brief Religious Coping Inventory

Please indicate yes or no to the following items below:

1. Looked for a stronger connection with God.
2. Sought God's love and care.
3. Sought help from God in letting go of my anger.
4. Tried to put my plans into action together with God.
5. Tried to see how God might be trying to strengthen me in this situation.
6. Asked forgiveness for my sins.
7. Focused on religion to stop worrying about my problems.
8. Wondered whether God had abandoned me.
9. Felt punished by God for my lack of devotion.
10. Wondered what I did for God to punish me.
11. Questioned God's love for me.
12. Wondered whether my church had abandoned me.
13. Decided the devil made this happen.
14. Questioned the power of God.

Appendix D: SF-12 Health Perceptions

SF-12® Health Survey Scoring Demonstration

This survey asks for your views about your health. This information will help you keep track of how you feel and how well you are able to do your usual activities.

Answer every question by selecting the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

Excellent	Very good	Good	Fair	Poor
☐	☐	☐	☐	☐

2. The following questions are about activities you might do during a typical day. Does <u>your health now limit you</u> in these activities? If so, how much?

	Yes, limited a lot	Yes, limited a little	No, not limited at all
A <u>Moderate activities</u>, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	☐	☐	☐
B Climbing <u>several</u> flights of stairs	☐	☐	☐

3. During the <u>past 4 weeks</u>, have you had any of the following problems with your work or other regular daily activities <u>as a result of your physical health</u>?

	Yes	No
A <u>Accomplished less</u> than you would like	☐	☐
B Were limited in the <u>kind</u> of work or other activities	☐	☐

4. **During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?**

	Yes	No
A Accomplished less than you would like	☐	☐
B Did work or other activities less carefully than usual	☐	☐

5. **During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?**

Not at all	A little bit	Moderately	Quite a bit	Extremely
☐	☐	☐	☐	☐

6. **These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.**

   How much of the time during the past 4 weeks...

	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
A Have you felt calm and peaceful?	☐	☐	☐	☐	☐	☐
B Did you have a lot of energy?	☐	☐	☐	☐	☐	☐
C Have you felt downhearted and blue?	☐	☐	☐	☐	☐	☐

7. **During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?**

All of the time	Most of the time	Some of the time	A little of the time	None of the time
☐	☐	☐	☐	☐

Thank you for completing these questions!

Appendix E: Chronic Disease Self-Report Measure

Demographic Information

Age: _____ Years in Ministry: _____

Parish Size: 0-20 families; 20-100 families; 100-500 families; 500+ families (please circle)
Your Marital Status: _____
Children status: Yes or No (please circle). If yes, how many? _____

Preventive Tests and Screenings (please indicate the year last done)

Physical Exam_____ Eye Exam_____
Blood Pressure Screening_____ Cardiac Stress Test_____
EKG (Electrocardiogram)_____ Skin Cancer Screening_____
Lipid Panel (Cholesterol Screening) _____ Upper GI Endoscopy_____
Colonoscopy_____ Prostate Exam _____
Other_____
_____

Surgeries
Please check all that apply

Angioplasty __	Anorectal surgery __	Appendectomy __
Biopsy __	Cataract removal __	Cardiac catheter __
Hand or foot __	Gastric Bypass __	Coronary artery bypass __
Heart valve __	Intestinal surgery __	Lung surgery __
Pacemaker __	Plastic surgery __	Radiation therapy __
Spinal fusion __	Tonsillectomy __	Thyroid __
Urinary diversion __	Vascular surgery	Vasectomy __

Other:
_____

Chronic Conditions (long term)
Please check all that apply

Allergy (life threatening)
__Food
__Medications
__Latex
__Anesthetics
__Anaphylaxis

Blood & Lymphatic
__Anemia
__Bleeding Disorders
__ Immune deficiency
__ Thrombosis
__Need for anticoagulants
__ Sickle Cell
__Thalassemia

Cancer
List type and organ
_____

Cardiovascular
__ Hypertension (high blood pressure)
__Coronary artery disease
__Congestive heart failure
__Valvular disease
__ Atrial fibrillation
__Aortic aneurysm
__Aortic dissection

Ear/Nose/Throat
__Chronic Sinusitis
__Hearing Impairment
__Tinnitus (ringing in ears)
__Vertigo (dizziness)
__Upper airway allergies (allergic rhinitis)
__Chronic laryngeal conditions

Endocrine
__Diabetes
__Hypothyroidism
__Hyperthyroidism

Eye/Vision
__ Glaucoma
__ Cataract
__ Macular degeneration
__ Color blindness
__ Ocular misalignment

__Retinal abnormality (e.g. detachment, degeneration)
__Amblyopia (lazy eye)

Gastrointestinal
__Peptic ulcer
__Reflux esophagitis
__Pancreatitis
__Crohn's disease
__Ulcerative colitis

HIV/AIDS (opportunistic infections)
__HIV year diagnosed _____
__PCP
__MAI
__Cytomegalovirus
__Toxoplasmosis
__Cryptococcus
Other_____

Kidney & Urologic (urinary tract) Disease
__Anatomic abnormalities
__Chronic infections
__Kidney stones
__Glomerulonepritis
__Nephrotic syndrome
__Enlarged Prostate
__Chronic prostatitis
__Ischemic bowel disease

Liver
__Cirrhosis
__Biliary tract disease
__Hepatitis A
__Hepatitis B
__Hepatitis C
__Gallstones

Male Reproductive
__Infertility
__Erectile dysfunction

Musculoskeletal / Joint
__Degenerative arthritis
__Rheumatoid arthritis
__Lupus
__Lyme arthritis
__Gout
__Osteoporosis

Neurologic
__Stroke
__Aneurysm
__Parkinson's disease
__Multiple sclerosis
__Headaches Seizure disorder (epilepsy)
__Alzheimer's / dementia
__Peripheral neuropathy
__Spina bifida

Psychiatric
__Depression
__Anxiety
__Bipolar
__Schizophrenia

Respiratory
__Asthma
__COPD
__Cystic fibrosis
__Pulmonary embolus (blood clot to lung)
__Pulmonary hypertension
__Pulmonary fibrosis
__Pleural effusion
__Collapsed lung
__Tuberculosis

Skin
__Dermatitis / Eczema
__Psoriasis
__Skin cancer(s)

Sleep Disorders
__Sleep apnea

__Narcolepsy
__Chronic insomnia
__Cataplexy Somnambulism

Other Chronic Conditions
__Chronic Pain
Other_____

Conditions Family Health History (please list pertinent illnesses/diseases)
Mother

_____
Father

_____
Sister(s)/Brother(s)_____
_____
Grandparents_____
_____