View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Walden University

Walden University
ScholarWorks

Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies Collection

2015

The Psychological Resilience of Spousal Caregivers of Multiple Sclerosis Family

Marisa Diane Diaz
Walden University

Follow this and additional works at: https://scholarworks.waldenu.edu/dissertations

Part of the Clinical Psychology Commons, Family, Life Course, and Society Commons, and the Health and Medical Administration Commons

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Marisa D. Diaz

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. Patricia Heisser Metoyer, Committee Chairperson, Psychology Faculty
Dr. Deborah Elliott-De Sorbo, Committee Member, Psychology Faculty
Dr. James Carroll, University Reviewer, Psychology Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2015

Abstract

The Psychological Resilience of Spousal Caregivers of Multiple Sclerosis Family Members

by

Marisa D. Diaz

MS, University of Phoenix, 2009

BA, University of the Incarnate Word, 2004

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Clinical Psychology

Walden University

October 2015

Abstract

The purpose of this quantitative study was to examine an under-researched topic: the relationship between psychological resilience and personal growth with spousal caregivers of patients diagnosed with Multiple Sclerosis (MS). Chronic illnesses contribute to potentially stressful changes (i.e., lifestyle, quality of life, financial wellbeing, and interpersonal relationships) for the caregiver. The theoretical foundation for this study was Walsh's family resilience theory, which contends that resilience is vital for coping with stressful life experiences and leading a more successful life. Three separate analyses were conducted to examine the relationship between the total scores of the RS and the PGIS, the SWLS, and the EMS along with the background variables to see if the covariates contributed information about the relationship between these variables while controlling for gender, marital satisfaction, time since partner diagnosis, age of caregiver, whether the participant had previous interventions, whether the couple had children, current health status, duration of marriage, and life satisfaction. Based on the findings of the multiple-regression analysis, a significant relationship was found between resilience and personal growth of 115 caregivers of MS spouses. Further analysis showed a significant relationship between resilience and satisfaction with life, with marital satisfaction being the only other variable that was significant in the model. The information gathered in this study could contribute to social change for program planners and policy makers by revealing a need for innovative support services.

The Psychological Resilience of Spousal Caregivers of Multiple Sclerosis Family Members

by

Marisa D. Diaz

MS, University of Phoenix, 2009

BA, University of the Incarnate Word, 2004

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Clinical Psychology

Walden University

October 2015

Dedication

I dedicate this work to my husband of 10 years, Rene, whose words of support helped me to continue on with the process of finishing my degree and who provided constant care for me and our child. I also dedicate this work to my daughter, Vianna, who had to sacrifice many hours of family time so that I could continue to help others with my research. She kept me motivated to keep going and through everything she continued to keep her smile.

A special feeling of gratitude to my loving and supportive parents, Ignacio and Diane, whose words of encouragement and constant examples of tenacity have pushed me to become the individual I am today. My brother, Stephen, who had to grow up before his time to become a caregiver to his older sister, and had to sacrifice many hours with our parents due to my illness. I also dedicate this work to my many family members, friends, healthcare workers, and doctors who have given support, provided care and words of encouragement to continue through this stressful yet rewarding journey. I want to give thanks to a special healthcare worker, my nurse Don, who not only kept me calm and motivated, but also helped me collect participants for this study.

Lastly, I dedicate this work and give special thanks to all the caregivers that have selflessly given their time, finances, and support to encourage and care for their chronically ill family members. As a chronically ill individual, I know from experience that I would not be capable of my accomplishments without my many caregivers.

Acknowledgments

I wish to thank my committee members who were more than generous with their expertise and precious time. A special thanks to Dr. Patricia Heisser-Metoyer, my committee chairman for her countless hours of reflecting, providing significant insight, and her ever constant reminder to be patient. A feeling of gratitude to Dr. Deborah Elliott-DeSorbo for agreeing to serve on my committee, and her expertise with regard to my methodology chapters.

To my supervisor, Dr. Arturo Flores, for his countless hours of reviewing, editing, and critiquing my paper. His constant effort and guidance helped to improve the quality of this paper. Thank you for giving valuable feedback, and motivation to continue on with this process. I am forever grateful to all my supervisors that gave me constant encouragement, important and valuable feedback during my internship, and allowed me to grow and develop my own therapy style.

I want to thank and recognize my fellow student colleagues, in particular Jamie, Maria and Jesse, for allowing me to vent and work through our many challenges. Jesse, thank you for providing a much needed shoulder to lean on, our many conversations have kept me focused and determined.

Finally, I want to thank the National MS Society, the MS Foundation, the Baptist Health System, the University Health System, Dr. Edward Fox's group in Houston, and the Neurology Center of San Antonio for allowing me to post and distribute my survey.

Table of Contents

List of Tables vi

List of Figures vii

Chapter 1: Introduction to the Study 1

Background of the Study 2

Problem Statement 5

Purpose of the Study 6

Research Questions 7

Theoretical Foundation 11

Nature of the Study 12

Variables 12

Definitions 13

Assumptions 15

Limitations 16

Significance of the Study 18

Summary 20

Chapter 2: Literature Review 22

Literature Search Strategy 23

Psychological Resilience Theory (PRT) 24

Cicchetti and Lynch's Ecological-Transactional Model 29

Walsh's Family Resilience Framework 31

The Three Sublevels of Walsh's Family Resilience Framework 32

Belief System 32

Organizational Patterns 32

Communication Processes 32

The Three Levels of Walsh's Family Resilience Framework 33

Belief Systems 36

Organizational Patterns 37

Communication Processes 38

Psychological Resilience and Interpersonal Functioning 40

Psychological Resilience and Interpersonal Relationships 42

Psychological Resilience and Managing Interpersonal Stress 47

Psychological Resilience and Managing Stress 50

Psychological Resilience within the Spousal Relationship 56

Integrating Psychological Resilience into Marital Interventions 60

Personal Growth after Stressful Life Events 62

Literature Pertaining to Spousal Caregivers 65

Summary 67

Chapter 3: Research Method 69

Research Design and Approach 70

Population 72

Procedures 73

Methodology 73

Sample Size 73

Instrumentation 75
Measuring Psychological Resilience 76
The Resilience Scale (RS) 77
Purpose 77
Scoring 77
Psychometric Properties 78
Personal Growth Initiative Scale (PGIS) 78
Purpose 78
Scoring 79
Psychometric Properties 79
Satisfaction with Life Scale (SWLS) 80
Purpose 80
Scoring 80
Psychometric Properties 81
ENRICH Marital Satisfaction Scale (EMS) 81
Purpose 81
Scoring 82
Psychometric Properties 82
Demographics Questionnaire 83
Data Collection and Analysis 83
Restatement of Research Question and Hypothesis 84
Data Collection 87

Data Analysis Plan 88
Threats to Statistical Conclusion and Validity..89
Reliability of Instruments 90
Data Assumptions 92
Protection of Participants' Rights 95
Ethical Issues 96
Research Problem 96
Research Question and Purpose 97
Data Analysis and Interpretation 97
Summary 98
Chapter 4: Results 99
Demographic Characteristics of the Sample 102
Data Screening 105
Data-Analysis Results 106
Study Results 107
Research Question 1 107
Research Question 2 110
Research Question 3 113
Summary 116
Chapter 5: Discussion, Conclusions, and Recommendations 118
Study Overview 118
Interpretation of Findings 119

Literature Review and Research Findings 122

Theoretical Framework and Research Findings 126

Limitations of the Study 127

Recommendations 129

Implications 130

Conclusions 132

References 134

Appendix A: Consent Form 161

Appendix B: Personal Growth Initiative Scale 163

Appendix C: The Resilience Scale 164

Appendix D: The Satisfaction with Life Scale 166

Appendix E: ENRICH Marital Satisfaction Scale (EMS) 167

Appendix F: Demographics Questionnaire 168

Appendix G: RS Permission 170

Appendix H: PGIS Permission 173

Appendix I: SWLS Permission 174

Appendix J: EMS Permission 175

Appendix K: Linear Multiple Regression Fixed Model 176

List of Tables

Table 1. Frequencies and Percentages for Participants Demographics 103

Table 2. Cronbach Alpha and Descriptive Statistics for Scales 105

Table 3. Multiple Linear Regression Coefficients Predicting Personal Growth Initiative 110

Table 4. Multiple Linear Regression Coefficients Predicting Satisfaction with Life 113

Table 5. Multiple Linear Regression Coefficients Predicting Marital Satisfaction 116

List of Figures

Figure 1. Normal P-P Scatterplot for Regression Predicting Personal Growth Initiative 108

Figure 2. Homoscedasticity Scatterplot for Regression Predicting Personal Growth Initiative 109

Figure 3. Normal P-P Scatterplot for Regression Predicting Satisfaction with Life 111

Figure 4. Homoscedasticity Scatterplot for Regression Predicting Satisfaction with Life 113

Figure 5. Normal P-P Scatterplot for Regression Predicting Marital Satisfaction 114

Figure 6. Homoscedasticity Scatterplot for Regression Predicting Marital Satisfactions 115

Chapter 1: Introduction to the Study

Chronic illness affects a large majority of the population in the United States and can cause a strain on economic resources, the health care system, and impact society. I examined how the effects of chronic illness impact spouses who care over their chronically ill partner. Stress, burden, and lack of support could affect the spouses' mental health and how they respond to their partner. Examining the spouses' level of psychological resilience and how it affects personal growth, marital satisfaction and life satisfaction could give insight to psychologists, medical doctors, and counselors on how to improve the caregivers' mood, coping skills, and quality of life.

This chapter is the background information regarding chronic illness and the affects it has on caregivers including family, friends, and society. The concept of psychological resilience will be explained as well as the impact it could have on quality of life, marriage, and personal growth. The problem statement will explain the importance of increasing psychological resilience in Multiple Sclerosis (MS) caregivers and demonstrate how there is a lack of research in this area. The purpose section of the chapter will demonstrate the need for further research into psychological resilience and the affects it has on the caregiver. The research questions were asked to examine personal growth, marital satisfaction, and life satisfaction while controlling for gender, duration of time since partner diagnosis, age, previous interventions, children, health status, and duration of marriage.

Background of the Study

In the United States, chronic illnesses (heart disease, cancer, diabetes, lung diseases, multiple sclerosis, etc.) affect 70% of the population and about 75% of the healthcare cost (Kung, Hoyert, Xu, & Murphy, 2008Chronic illness is typically handled by the health care system; but, about 8.6 million Americans reported living with disabilities related to chronic illness and continuing to live at home (Brault, Hootman, Helmick, Theis, & Armour, 2009). Chronic illness affects the physical, mental, and social functioning of the patient as well as the family members (Harris & Wallace, 2012). Consequences of chronic illness include physical pain, altered mental functioning (depression, anxiety, anger), and the inability to work (Harris & Wallace, 2012).

Most chronic illnesses (diabetes, multiple sclerosis, cancer, etc.) have an effect on the caregivers (family, friends, etc.) by placing physical, mental, and economic demand of the family member (Harris & Wallace, 2012). Chronic illnesses affect the quality of life of all involved with the patient including emotional distress, sleep and pain symptoms, physical impairment, and age related problems all of which complicate and detract from the wellbeing of the sick individual and those involved in their care (Anderson, 2005). If chronic illness is a traumatic life experience, individuals will struggle through the process of coping and continuing to function well, these individuals often seek help from counseling professionals. At times, it may become appropriate to minimize the experienced trauma; however, caregivers and chronically ill individuals could benefit from further interventions that not only focus on the traumatizing event, but

encourage and motivate the individual to improve their quality of life and increase personal growth.

The ability to increase personal growth may increase problem-solving skills, confidence, and quality of life. People who are chronically ill and those caring for them need all the preventive services available including lifestyle interventions that will promote healthful eating, physical activity, weight maintenance, and improved functioning (Institute of Medicine, 2012). Given that chronic illness affects so many in society, public health programs and health systems need to promote community based care to encourage self-management, cognitive training, increase awareness and education, and introduce alternative medicine (Harris & Wallace, 2012).

In order to increase quality of life and promote successful personal growth, psychological resilience could be an important concept. Psychological resilience is the process of adapting to difficult and traumatic life events (causing stress affecting family and relationships) and developing skills to continue to function in daily life (APA, 2012). Resilience can be developed with each stressful event the individual experiences helping him or her to cope with distress and loss and grow from each situation (APA, 2012). Many factors (developing realistic plans, confidence, communication, and managing emotions) contribute to psychological resilience; caring and supportive relationship within and outside of the family are the most important factor (APA, 2012). According to the APA researchers resilience is a personal journey and building a resilience approach that works for the individual will increase personal growth. Some variation in developing resilience include cultural differences (communication, diversity with showing emotions,

etc.) and personal resources (family, friends, and community). Psychological resilience may be a contributing factor when applied to personality, intelligence, and temperament, such as the ability to grasp the meaning of the traumatic situation and apply the lessons to the different life domains, such as social interactions.

Although psychological resilience is discussed as a separate construct in this paper, Tugade, Fredrickson, and Barrett (2004) argued that resilience along with positive granularity may be related. Tugade et al. argued those resilient individuals are able to process complex understandings of their positive emotions (reflecting a high positive emotional granularity), with this knowledge they are able to remain flexible and utilize their resources to adapt to the negative circumstances. APA (2014) stated that when individuals examine complex emotional responses within themselves and in society, learn to adapt to recent changes, and maintain a hopeful outlook, they develop a broader understanding of behavioral and coping responses, allowing them to have greater flexibility in stressful situations.

Psychological resilience is a vital component in the healthy functioning and that personal growth is possible after a traumatic life event; yet, researchers have yet to investigate how these two concepts are related and how they can be applied to increase quality of life. In this cross-sectional study, psychological resilience was examined for its association with personal growth after the traumatic life event of chronic illness to being filling this gap in the current literature. This study will contribute vital information to the current body of literature by increasing the understanding of whether a caregiver of a

chronically ill individual can develop personal growth, rather than focusing on the negative consequences of their situation.

Participants were recruited to participate in a voluntarily study. The participants were notified via flyer posted with various Multiple Sclerosis Centers in Texas or through the web posting on the National MS Society web page. The invitation was focus on legally married individuals who were part of the center or who visited the National MS Society web page, which included a survey link via Survey Monkey. The survey link included an explanation of the proposed study, eligibility requirements, demographic questionnaire, informed consent form, and three different survey instruments. Using Survey Monkey, all four instruments were combined into the survey link for the participant to complete.

Problem Statement

The research problem addressed in this study is what impact psychological resilience has on personal growth when these two variables are evaluated simultaneously in caregivers of MS patients. Caregivers of patients with MS experience higher levels of distress and a significant reduction in quality of life (Figved, Myhr, Larsen, & Aarsland, 2007); yet, information regarding how caregivers can improve their personal growth and build resilience after a diagnosis of MS is lacking in the current literature. Most researchers of psychological resilience have examined children and how they can continue to thrive through stressful and traumatic situations while continuing to perform in the academic setting (Luthar, 2003), and developed resources to help them cope (Masten & Garmezy, 1985). There have been some researchers who have focused on

psychological resilience and how it relates to developing interpersonal relationships (Flores, Cicchetti, & Rogosch, 2005). Based on research by DiLillo (2001), psychological resilience can contribute to the individuals' quality of life and their ability to cope with stressful situations. Given that psychological resilience can promote quality of life and coping skills, it seems viable to evaluate how resilience can influence personal growth with caregivers of MS patients.

Personal growth is possible after a traumatic event if the individual is able to derive meaning from their experience (Bluck & Glueck, 2004). Although psychological resilience has been studied in several areas, it seems to have been neglected in the area of personal growth after becoming a caregiver. Given the increasing number of MS patients (Joy & Johnston, 2001), and the known devastating effects of MS (NINDS, 2013), it is important to examine the gap within the literature regarding possible personal growth. It seems necessary to fill this gap by examining the nature of the correlation between psychological resilience and personal growth.

Purpose of the Study

The purpose of this quantitative study was to examine the relationship between psychological resilience and personal growth with spousal caregivers of patients diagnosed with MS. It has already been shown that this population can contribute vital insight into how psychological resilience is related to improved quality of life (Aronson, et al., 1996). However, even within this population, researchers have not investigated how psychological resilience influences personal growth after a traumatic event such as caring for a partner with MS. I explored the relationship between the overall scores of

psychological resilience using the Resistance Scale (RS) personal growth using the Personal Growth Initiative Scale (PGIS), marital satisfaction using the ENRICH Marital Satisfaction (EMS), and well-being using the Satisfaction with Life Scale (SWLS) to establish if there is a relationship between psychological resilience and personal growth, while controlling for such background variables as gender, time since diagnosis, whether the participant has taken part in other interventions, whether there are children involved, age, and duration of marriage. As a preliminary step, a Pearson correlation was used to investigate whether such background variables were associated with scores of psychological resilience and personal growth. Further analysis was conducted to examine the influence of specific psychological resilience sublevels with the use of post hoc test if needed. Such background variables may influence how people react to stressful situations and how they cope emotionally.

The study I performed showed that a significant positive association was found between psychological resilience and personal growth. These findings could suggest that with increased resilience the individual is able to increase their personal growth. The findings also suggest that with future efforts in counseling and therapy directed to increase knowledge of resilience in combination with growth it would help to increase confidence and reduce stress.

Research Questions

I proposed to show whether a positive correlation between psychological resilience and personal growth exists. Three research questions with corresponding null

and alternate hypotheses were used to evaluate the described factors and possible interactions. The research questions are as follows:

1. Does psychological resilience, as measured by the Resistance Scale (RS), statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant had previous interventions, (f) whether the couple has children, (g) current health status, and (h) duration of marriage?

$H1_o$: Psychological resilience, as measured by the Resistance Scale (RS), does not statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

$H1_a$: Psychological resilience, as measured by the Resistance Scale (RS), does statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

2. Does higher psychological resilience, as measured by the Resistance Scale (RS), statistically predict increased satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant had previous intervention, (f) whether the couple has children, (g) current health status, and (h) duration of marriage?

$H2_o$: Psychological resilience, as measured by the Resistance Scale (RS), does not statistically predict satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

$H2_a$: Psychological resilience, as measured by the Resistance Scale (RS), does statistically predict satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

3. Does higher psychological resilience, as measured by the Resistance Scale (RS), in conjunction with increased satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), predict increased marital

satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since partner diagnosis, (c) age of caregiver, (d) whether the participant had previous intervention, (e) whether the couple has children, (f) current health status, and (g) duration of marriage?

$H3_o$: Psychological resilience, as measured by the Resistance Scale (RS) in conjunction with satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), does not statistically predict marital satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since diagnosis, (c) age of caregiver, (d) whether the participant took part in any intervention previously, (e) whether the couple has children, (f) current health status of caregiver, and (g) how long the couple has been married.

$H3_a$: Psychological resilience, as measured by the Resistance Scale (RS) in conjunction with satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), does statistically predict marital satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS) as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since diagnosis, (c) age of caregiver, (d) whether the participant took part in any intervention previously, (e) whether the couple has children, (f) current health status of caregiver, and (g) how long the couple has been married.

Theoretical Foundation

Luthar, Cicchetti, and Becker's (2003) construct of Psychological Resilience is the theoretical framework upon which the proposed study is based. More specifically, Walsh's family resilience theory was chosen for this investigation. This theory integrates the perspective of psychological resilience as a family model; the theory describes psychological resilience as an open system that functions in relation to its broader sociocultural context (Walsh, 2002). This approach is used to examine how the family and individual interact with regard to stressful life experiences and shows how resilience is a vital concept in regards to leading to a more successful and emotionally healthy life.

Key concepts of the family resilience model include (a) belief system, (b) organizational patterns, and (c) communication processes. These three concepts could be important in perceiving and understanding emotions in oneself and with regard to family, possibly contributing to the individual's personal growth (Walsh, 2002). According to this theory, psychological resilience could be vital to improve relationships in order for personal growth to occur. An individual could move beyond the negative consequences of their situation and actively seek understanding with their emotions and the feelings of others. It would appear that in applying this theory to the current study, psychological resilience would be expected to be significantly linked to growth, showing that individuals who have higher resilience are more likely to achieve personal growth., satisfaction with life, and marital satisfaction.

Nature of the Study

I examined the correlation between psychological resilience (the independent variable) and personal growth (the dependent variable) in caregivers of MS patients. Psychological resilience will be assessed using the RS to obtain an overall measure of psychological resilience (Wagnild & Young, 1993). The data analysis tool for this study was a multiple regression. Multiple regression was used to determine if there is a correlation between the dependent and independent variable. Personal growth, as an overall measure, will be assessed with the PGIS (Robitschek, 1999). Survey data was collected from self-report questionnaires completed by participants while also administering the SWLS to learn where individuals assess their satisfaction in life (health, finances, etc.) and the (EMS) to assess their marital satisfaction. All participants completed a demographics survey, the RS, the PGIS, EMS and the SWLS. A multiple regression analysis was used to analyze the data.

Prospective participants in the study were recruited through different Multiple Sclerosis centers located in the United States. A brief description of the study was given to interested participants who respond to an invitation to participate in the study. A more detailed discussion of research methods and the nature of the study are provided in Chapter 3.

Variables

One independent variable and one dependent variable will be examined.

Independent Variable

The construct of psychological resilience was used as the predictor variable to see how it can positively influence growth, well-being, and marital satisfaction while controlling for such background characteristics as gender, and time since partner had been diagnosed, age of participants, whether the participant took part in any interventions such as a group or individual therapy to increase psychological resilience, whether the couple had children, current health status, and how long the couple had been married. Psychological resilience increases the individuals capacity to adjust and recover from stress, frustrations, and trauma (He, Cao, Feng, Guan, & Peng, 2013), making psychological resilience an important component and predictor of personal growth, marital satisfaction, and satisfaction with life.

Dependent Variable

The dependent variables are personal growth and its interrelations with psychological resilience, marital satisfaction, and life satisfaction. Riley et al. (2007) used a personal growth subscale found a correlation between personal growth and increased optimism and adaptive coping skills.

Definitions

Adaptive Behavior: Skills that are necessary for people to navigate through the demands of the environment in and effective and successful manner by utilizing skills (communications, complete daily tasks, function at school and work, and develop relationships; Advanced Psychological Assessment, 2006).

Adversity: A state of hardship, suffering from increased psychological distress, experiencing an adverse event or circumstance (Davis, Caldwell, Clark, & Davis, 2009).

Big Five Personality Dimensions: Five broad clusters of traits used to evaluate an individual's personality (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism; Srivastava, 2013).

Chronic Illness: There are many types of chronic illness consisting of persistent fatigue and causing challenges to individuals affecting mental and emotional health. Chronic illnesses may be sporadic or long lasting becoming gradually worse over time (APA, 2013).

Developmental Process: A series of stages from childhood to adulthood focused on different areas of the body and mind that occurs during conflicts that play a major role in the course of development (Lam, O'Donnell, & Gillibrand, 2011).

Interpersonal Functioning: This pertains to how an individual relates to emotions, feelings and ideas with others with regard to interpersonal relationships including (inference, love, solidarity, regular interactions, or social commitment; Vittengl, Clark, & Jarrett, 2004).

Interpersonal Relationships: A strong or close association between two or more people that are based on inference, solidarity, or other type of social commitment that is formed within the context of social, cultural, and other influences (family, friends, marriages, etc.; Petty, Sachs-Ericsson, & Joiner, 2004).

Interpersonal Stress: Stress that individuals experience when they are involved in interpersonal conflict with family and friends (Eberhart, & Hammen, 2010).

Multiple Sclerosis: Multiple Sclerosis is a chronic autoimmune disorder that is often a disabling disease which attacks the nervous system affecting movement, sensation, and bodily functions (National Multiple Sclerosis Society, 2013).

Personal Growth: A process that produces personal change (self-improvement economically, intellectually, or emotionally) and progress that is initiated from within the individual (Taylor, 2012).

Protective Factors: Individuals' develop protective factors (resilience, social connections, supporting relationships, knowledge, and emotional competence) to deal effectively with adverse events and traumatic experiences (Center for the Study of Social Policy, 2013).

Psychological Resilience: An individuals' ability to withstand and cope with stressors and "bounce back" to a normal state of daily functioning (Tugade et al., 2004).

Quality of Life: A multidimensional concept that includes both positive and negative aspects of life including, domains such as jobs, housing, schools, neighborhoods, culture, values, spirituality, and well-being (Centers for Disease Control and Prevention [CDC], 2013).

Assumptions

The study is based on the following assumptions:

1. The RS is a psychometrically sound assessment tool for identifying psychological resilience (Wagnild & Young, 1993).
2. The PGIS is a psychometrically sound measurement for assessing personal growth (Robitschek, 1999).

3. The SWLS is a psychometrically sound measurement for the life satisfaction component of subjective well-being (Pavot & Diener, 2008).
4. The ENRICH EMS is a psychometrical sound measurement for marital satisfaction and moderate relationships with measures to include family satisfaction and consideration of divorce (Fowers & Olson, 1993).
5. The assessment tools being used are appropriate for the identified sample of caregivers of MS patients. This sample is capable of understanding and completing the RS, PGIS, SLS, and the demographics questionnaire.
6. Participants will answer questions honestly, candidly, and to the best of their personal judgment.
7. The overall levels of psychological resilience and personal growth could be attributable to many different factors, including age, education, gender, and socioeconomic status.

Limitations

The following limitations are recognized for this study:

1. To participate in this study, individuals independently completed and submitted the questionnaires used, which lead to missing data from 9 participants.
2. Not all participants had the same level of interest in completing the questionnaires. This needed to be taken into consideration when interpreting the data, and may have slightly skewed the description of resilience and personal growth. There was also a possibly that a low

percentage of the eligible participants agreed to consent to do the study, leading to a low response rate, but in this case 115 participants were willing to complete the study in its entirety.

3. The RS, PGIS, SWLS, and EMS are self-report inventories. It is acknowledged that some social desirability bias might be present in the answers. Not all participants would be completely truthful when answering the questions. The mood and time of the day in which the individual fills out the questionnaire are not under control and might influence the results.
4. The sample was drawn from individuals that lived in the United States and may not represent all populations. Legally married spousal caregivers participated in the research study, again limiting generalizability.
5. The size of the population was limited to legally married spousal caregivers. The sample size was hindered by the size of the MS center, participant interest, and participation.
6. Psychological resilience is a subjective concept; this theoretical foundation could be challenged, and other manners of measuring an individuals' experience after becoming a caregiver might be more appropriate.
7. The data collected was cross-sectional, which precludes determinations of the cause-and-effect nature of the relationship between psychological resilience and personal growth, making it possible to make such inferences.

Significance of the Study

Examining the correlation between psychological resilience, personal growth, and satisfaction with life in caregivers of MS patients is vital. This study can help to inform researchers and create treatments by filling a gap in the current knowledge base. Such a contribution can bring awareness of possible growth and providing needed training for mental health professionals in these areas, thus increasing the efficacy of several mental health services. The findings can contribute to the knowledge of marriage counselors who currently find that literature concerning these constructs after the traumatic event is lacking. I intended to fill this gap in the literature by evaluating whether psychological resilience and personal growth are related. This investigation of this relationship could help professionals and family members better understand psychological resilience and the effects on personal growth after the stressful event of having a partner diagnosed with MS (Buhse, 2008).

One benefit for positive social change is increasing the awareness of possible personal growth after becoming a spousal caregiver. There is a general agreement in the literature that chronic illness impacts the marital relationship (Buhse, 2008). The addition of a chronic illness into the marriage can bring on negative consequences that can affect the couple's mental and physical functioning, an investigation of how well can be increased seems vital for this population. I evaluated an area that has been somewhat neglected thus far.

An additional benefit for positive social change impacts the treatment for individuals who seek counseling after becoming a caregiver. Positive growth can be

experienced after a stressful or traumatic experience by allowing the individual to learn from past events and negotiate through future disasters (Bluck & Glueck, 2004). Mental health professionals could foster such positive growth by helping the individual find a balance between commitments and personal goals (Brandtstadter & Santos, 2009). Researchers in epidemiological studies have estimated that 50-60% of the United States population has been exposed to one traumatic event, and 5-10% develops PTSD (Bonanno, 2004). Psychological resilience training could aid by possibly helping the individual increase their understanding of his or her self and their spouse. Given that the majority of caregivers surveyed in past studies are spouses (Fitzpatrick & Vacha-Hasse, 2010), these implications are immense for society, considering that a greater number of individuals could be treated more efficiently. If mental health professionals only focus on the negative consequences of the chronic illness, these thoughts could be transferred to the entire family causing “stress spillover” (Randall & Bodenmann, 2009), and mental health professionals could neglect to treat a large percentage of the population appropriately.

The implications for social change can only be accomplished if the gap in the literature with regard to psychological resilience and personal growth for caregivers is filled. The information gathered in this study will contribute important data to program planners, policy makers, and expose a need for accessible, affordable and innovative support services to reduce the strain on informal caregivers.

Summary

Researchers have neglected to examine how psychological resilience of a spousal caregiver to a MS patient may impact personal growth. The addition of a chronic illness to a marriage can be difficult (Neff & Karney, 2004) and that people can better adjust when they achieve personal growth (Story & Bradbury, 2004). A critical factor for improving psychological resilience is focusing on untapped coping resources and increasing confidence to enhance the individual's ability to handle stress (APA, 2012). Psychological resilience can be an important factor in the health of the interpersonal relationship (Neff & Broady, 2011).

People can improve their ability to grow by examining their past and learning from the stressful event and gain wisdom, which can increase quality of life and protect against future traumatic events (Bluck & Glueck, 2004). It has been well documented that both psychological resilience and personal growth are vital in managing stress and building strong relationships. Missing in the empirical data is the information as to how resilience and growth are related. Since psychological resilience and personal growth are important to how a person deals with stressful events, such as chronic illness, further research is needed.

Considering the increasing number of people needing caretakers and the almost complete lack of literature that focuses on the possible benefits of being a caregiver, this was an exploratory research that could be built upon in the future. Implications for social change are for both the individual and society. These implications include, building awareness for possible personal growth for caregivers in the mental health community,

fostering resilience treatment interventions, and developing training that is needed for professionals in this area.

Chapter 2 will include a review of the pertinent research that has been done to provide an in-depth discussion of psychological resilience and to demonstrate how it can be an important factor in positive personal growth. This discussion will show that psychological resilience could be a valuable concept when applied to spousal caregivers dealing with the addition of a chronic illness to their partner. Chapter 3 is the research methods for this study, including research design and approach, setting and sample, procedures, instrumentation, data collection and analysis, threats to statistical validity, and measures that will be taken to protect the participants' rights. Chapter 4, describes the data results, data screening, and study results with each research question broken down by the different coefficients. Chapter 5, provides the discussion of the study including the interpretation of the findings, recommendations, and research findings to support the conclusions of the study.

Chapter 2: Literature Review

The purpose of this quantitative, nonexperimental study was to examine the relationship between psychological resilience and the QOL regarding the spouse providing care to the MS patient. MS is a chronic illness that may result from physical limitations and has a high potential for psychosocial consequences. Population-based studies of QOL among caregivers of multiple sclerosis patients are rare (Aronson, 1997). Many MS patients require assistance with daily living, including eating, meal preparation, and keeping up with personal finances.

The literature review will show that psychological resilience is a vital component when dealing with difficult life events and improving the quality of care (QOC) provided to a family member. Among caregivers that have been surveyed in past studies, the majority are spouses; they report providing care and assistance to their family member for many hours during the day and this increase as the severity of the illness exacerbates (Aronson, Cleghorn, & Goldenberg, 1996). The relationship between providing care for the patient and stress is not new in psychoneuroimmunolgy; but, this relationship has been receiving more attention. Studies done within the last decade have found that caregiver stress is growing especially with the increasing number of people suffering from chronic and mental illnesses. QOL for the caregiver is a critical element in the quality of health care provided to the patient. The caregiver's QOL is just one component that may influence his or her mood, health, and daily stress. Although this review reveals that there is a lack of literature pertaining to the relationship between psychological resilience and quality of care given to patients, psychological resilience has been applied

to managing stress and improving such skills as communication, emotional control, and coping.

The review will show that following traumatic experiences, a person with psychological resilience will not only survive, but also continue to grow with minor transient disruptions to his or her daily functioning and increase knowledge (Bonanno, 2004). Finally, literature is also presented that suggests that spouses are an appropriate population to examine within regard to QOL and psychological resilience. This review will build upon a logical sequence to establish how psychological resilience may be related to personal growth and the quality of care in the chosen population.

This chapter begins with a description of the literature search strategy. Review of the literature will proceed in the following sequence: psychological resilience, the theory of family resilience, followed by a review of the literature on quality of life and personal growth. A brief discussion is included pertaining to why these variables are important in the study of how psychological resilience and QOL may be important factors in the interpersonal relationship with chronically ill family members and the QOC provided.

Literature Search Strategy

Articles and book chapters relevant to this study were obtained through the Walden University Library. Databases searched included PsycINFO, PsycArticles, American Psychological Association, PsycBOOKS, Medscape, PubMed, Buros Mental Measurements Yearbook, Psychology: A SAGE full-text collection, SocINDEX, and websites related to psychological resilience, quality of life, chronic illness, chronic stress, informal caregiver, caregiver PTSD, caregiver burden, and emotional stressors. Key

terms used included *family resilience framework, psychological resilience, quality of life, interpersonal relationships, personal growth, informal caregiver, caregiver burden*. Of approximately 150 articles searched and read, at least 60 were used as sources for the study. Articles and book chapters were filed for later use if they met the criteria for one of the key words used, effectively contributed to the topic, provided relevant information for the topic, or referred to the key concepts of the theoretical framework.

Psychological Resilience Theory (PRT)

An interest in measuring adaptive behavior and how it affects an individual's mental ability or aids in coping with traumatic experiences has been historically present in studies involving schizophrenics and persons exposed to extreme stress or poverty (Luthar, 2003). Most of these researchers examined children who lived with ill or abusive parents, or experiencing traumatic life events. The specific focus of these studies was the measurement of their mental ability and physical functioning to determine possible outcomes and treatment options for other children in similar situations (Luthar, 2003). Garmezy (1995) emphasized the importance of adaptive behavior and its contribution in developing protective factors with high risk populations (Luthar, 2003). In more recent studies, there has been scientific research showing the potential of resilience, and how it contributes to developmental theory, promotes adaptive behaviors and decreases maladaptive functioning in people. Today, resilience is not only considered important for children but also in regard to every day functioning for individuals of all ages.

According to Luthar (2003), resilience is defined as a developmental process that despite adversity reflects in a positive adaption. Luther believed that resilience is a trait

possessed by children and adults, and that these qualities can be taught and adopted as a risk strategy to prevent serious mental illnesses. Garmezy (1995), on the other hand, continued his work with children who were at risk for psychopathology due to poverty, chronic stress, or parental mental illness, during this time he started a project known as Project Competence. Much of the work that Garmezy conducted focused on how at risk children dealt with stress despite upbringing and other traumatic experiences. Garmezy found that these children did surprisingly well with regard to academics and social life. Garmezy (1995) focused on children with schizophrenic mothers and how the neglect, broken marriages, and the lack of responsibility of their parents affected their quality of life. These studies played a crucial role in the emergence of childhood resilience as a major theoretical theory (Luthar et al., 2000).

In Masten's (1985) study focusing on children living with mentally ill parents, the results indicated that the parent did not express the same caregiving when compared to parents who were not mentally ill; this factor has a significant outcome on the child's development. Although many children in this circumstance had difficulties with their development, it was found that some of the children thrived well in this type of environment and were proficient academically, which led to further studies that added to our understanding of children's responses to adversity (Luthar et al., 2000). The research from these studies was focused on the protective factors that explain the adaptation to adverse conditions (Garmezy, 1995), maltreatment (Beeghly &Cicchetti, 1994), catastrophic life events (O'Doughety-Wright et al., 1997), and poverty (Luthar, 1999),

and much of the empirical work has shifted to understanding how certain family variables contribute to positive or negative outcomes with regard to resilience.

The main focus of these studies was to examine the protective forces that children tend to develop in order to adapt to their dysfunctional environment and have healthy outcomes. Research with resilient children included examining personal qualities such as self-esteem, individual attributes, family dynamics, social support, and resources (Masten & Garmezy, 1985). As research developed, the main focus shifted from identifying these personal qualities to evaluating their contribution to positive outcomes in the individuals' life. The insight of pioneers in the field of psychological resilience not only examined the successful adaptation of the individual but how resilience might potentially contribute to social policy, prevention programs, and interventions for individuals dealing with adversity (Luthar, 2003).

Psychological resilience refers to an individual's ability to bounce back and withstand detrimental stressors without manifesting psychological dysfunction (mental illness or negative mood) by utilizing positive emotions to cope and allow the individual to fulfill their potential (Tugade et al., 2004). The construct of resilience indicates that resilient individuals have optimistic, zestful, and energetic approaches to their life, and they are willing to open themselves to new experiences; additionally these people are able to cultivate their positive emotions by utilizing humor, relaxation techniques, and optimistic thinking to cope with stressful situations (Tugade et al., 2004). Tugade et al. 2004, focused on the benefits of positive emotions on an individual's health and their overall quality of life. Tugade et al. used the broaden and build theory to demonstrate

how positive emotions can help to improve the health and wellbeing of their subjects, and how the difference between the individual's psychological resilience either benefits or hinders the subject's quality of life. Tugade et al., 2004, study explains that individuals with high resiliency are able to cope better within their challenging situations, but those individuals with low resiliency can be taught to experience positive emotions during a crisis and thus increase their coping skills and experience the same benefit that the high resiliency participants are able to experience. Tugades' study also lends credence to the idea that if the individual is able to find positive meaning in a stressful situation, this will help to increase their well-being.

According to Bonanno et al. (2007), adult resilience is the ability to continue functioning normally with regard to psychological and physical functioning when being exposed to a traumatic experience. Resilience does not mean that the individual will maintain a stable and healthy level of psychological and physical functioning immediately after the traumatic experience. Rather, it means that the individual may experience elevations in their psychological functioning and that the resilient individual will return to baseline psychological functioning and continues to fulfill their social and personal responsibilities (Bonanno et al., 2007).

Positive emotions can help buffer depression and anxiety by increasing the individual's ability to thrive in traumatic and stressful situations, which is consistent with the broaden-and-build theory (Fredrickson et al., 2003). Fredrickson et al. (2003) polled individuals after the attacks of September 11th, 2001 and suggested that the individuals were feeling positive emotions in conjunction with negative emotions during this

stressful circumstance. The positive emotions that the individuals' were feeling were justifiable due to grateful emotions with regard to being alive or that their family and loved ones were safe. Fredrickson et al. stated that resilient people were able to buffer depression and continue to thrive through traumatic experiences by utilizing positive emotions. The implications of the study suggested that cultivating and nurturing positive emotions in the aftermath of crises paid off in the short term to improve their subjects overall experiences, undoing physiological arousal, increasing broad-minded coping, and in the long-term, minimizing depression and increasing resources to help them thrive through the recent crises (Fredrickson et al., 2003).

According to Pierini and Stuifergen (2010), psychological resilience has multiple factors that include personal values (religion and spirituality), personality traits, behaviors (problem solving and coping style), and interpersonal resources (social supporting network). Pierni et al., revealed a paradox with regard to psychological resilience and depression by examining individuals diagnosed with the post-polio syndrome and how they coped with their personal lives. Over half of the participants stated they were in good health but when given the depression scale there was a high level of self-reported depression. Pierini et al. 2010, results revealed that although the participants had depression from their illness and physical disabilities their psychological resilience increased their coping skills, positive outlook, and social support to help them to continue with daily tasks and stay in good health.

Psychological resilience has an important impact on human performance, well-being, understanding one's self, and happiness, which are all major factors in the field of

positive psychology. An investigation of whether psychological resilience influences personal growth and quality of life after being exposed to daily chronic stress due to caregiving over a family member is warranted given the possibility that psychological resilience can positively affect coping and growth.

From these early models evolved the integrative ecological-transactional model of development, proposed by Cicchetti and Lynch (1993), stressed that context such as culture, neighborhood, and family influence the individual over time and contribute to their emotions, adaptation, and personal growth. The transactional perspective conforms to the family resilience framework proposed by Walsh (2002), which focuses on the family vulnerability and regenerative power to understand how some families are able to withstand stress and recover from crises situations.

Cicchetti and Lynch’s Ecological-Transactional Model

The ecological-transactional model focuses on the environment that the individual is exposed to including the (a) macrosystem, (b) exosystem, (c) microsystem, and (d) the ontogenic development (Cohen, 2006). Each of these levels examines the influences that the individual has been exposed to during their life. The macrosystem describes the culture that the individual has been taught through their family and society; cultural contexts including the individual’s country, economic status, poverty, ethnicity, age, social role, and the family’s social ties to society. Cohen explained that an individual’s macrosystem evolves over time developing through several generations and leading to the development of the individuals’ unique macrosystem. In order to grow from a devastating life event, it seems that the individual needs to complete the essential

developmental processes of attachment in order to build a solid foundation with which to cope and deal with tragic situations; hence incomplete developmental processes will cause the individual to dysfunction (Cohen, 2006).

The exosystem represents the social structures that are unique to each individual, including neighborhoods in which the individual lives; interconnection elements such as school, peers, church, work place; and informal and formal social networks (Cohen, 2006). The exosystem examines the availability of the social network, employment, and socioeconomic status of the individual (Cicchetti & Lynch, 1995). According to Bronfenbrenner (1979), the exosystem has an indirect effect on the individual in which the individual does not play a role in the construction of the experience; but, the systems around the individual impact the microsystems in the individuals' life.

The microsystem refers to the environment in which the individual lives including family members, peers, communities such as work and religion, neighbors, and others that the individual has regular contact (Brofenbrenner, 1979). The microsystem is the system that the individual has the most social interaction and has a direct impact on the individual due to the individual creating and constructing experiences (Cohen, 2006). In this system, the individual develops several relationships some are permanent in many cases family and others are fleeting for example, (dance class, sport participation, childhood clubs, or various employment opportunities). In the microsystem, the individual builds relationships and experiences that build cognitive and physical skills, shape successes and failures, and allow the individual to build social relationships (Brofenbrenner, 1979).

Cohen (2006) stated that the Ontongenic development of the individual is the negotiations of central tasks during each developmental period and can contributes to the direction of the individuals' competence and incompetence. Ontongenic development views the child's development as a progressive sequence of age and stage appropriate tasks including emotion regulation, formation of relationships, the development of autonomous self, symbolic development, moral development, peer relationships, adaptation to work and school, and personality organization (Cicchetti & Lynch, 1993). Ontongenic development is constant and continually changing affecting the individuals' psychological and biological experiences.

Walsh's Family Resilience Framework

The theoretical framework for exploring a relationship between psychological resilience and personal growth is based on the family systems theory proposed by Walsh (2002), this framework combines ecological and developmental perspectives to view the family as an open system that functions in relation to its broader sociocultural context. This approach examines the problems that are resulting from the interaction of the individual and family vulnerability with regard to stressful life experiences and social contexts (Walsh, 2002). This theory was used to identify whether there is a significant relationship. The three key concepts of the Family Resilience Framework are (a) belief system, (b) organizational patterns, and (c) communication processes.

The Three Sublevels of Walsh's Family Resilience Framework

Belief System

The belief system consists of making meaning of the challenge or adversity, positive outlook, and transcendence with regard to spirituality. Family resilience as well as individual resilience is thought to help the family or individual decipher the meaning of the crises or stressful situation (Walsh, 2002). Understanding the meaning of the stressful situation can help the individual develop several qualities (positive conclusions, a hopeful outlook, and bring on stronger spiritual values). Sharing the experience as a family helps the individual make the crises situation more manageable, and by understanding the situation as a cohesive unit the individual is able to reduce feelings of guilt and increase confidence and pride (Walsh, 2002).

Organizational Patterns

The organizational patterns consist of flexibility, connectedness, and social and economic resources. Resilience can be fostered through a flexible structure, shared roles and leadership, having mutual support, and teamwork when facing life challenges (Walsh, 2002). When faced with a new or chronic challenge the family unit is in a state of transition and reorganization. Counterbalancing the disruption in the normal activities after of the stressful event will help to develop stability for members in the family and help individuals to develop behaviors that reflect leadership, security, and dependability.

Communication Processes

The communication process consists of clarity, opening emotional sharing, and collaborative problem solving. During the communication process, it is important that the

family members are able to clarify the stressful situation by encouraging others in the family to speak openly regarding their emotions and receive an empathetic response (Walsh, 2002). After openly expressing emotions, the family unit can collaborate and problem solve increasing the resilience of the individual and family. Therapeutic efforts and future development with families would shift the crisis re-active mode to a proactive stance helping families and individuals “bounce forward” and achieve future goals (Walsh, 2002).

The Three Levels of Walsh’s Family Resilience Framework

Investigating the three levels of the Family Resilience Framework more closely can give a better insight into how psychological resilience can enhance well-being and personal growth. Walsh (2002), examined how the ability to communicate, rely on their belief system, and organize their resources may be important factors when dealing with the unprecedented challenges of the changing world including divorce, same gender couples, single and dual earner households, and dealing with serious illness. Rolland (1994), examined how serious mental or physical illness can affect the family as a whole and bring on new challenges, through the use of the family-system-illness model Rolland developed a psychosocial map to normalize and contextualize the family experience. The interventions attuned for the family challenges in three dimensions: (a) expectable demands depending on the severity of the illness and short or long term outcomes, (b) varied challenges depending on the severity of illness phase, and (c) family variable including beliefs, communication, and organization for coping with illness (Walsh, 2002).

Just as it could be insightful to examine the subscales of the family resilience framework in more detail, it would also be beneficial to rule out possible covariants that might influence the effects of psychological resilience. Tugade and Fredrickson (2004) evaluated how psychological resilience might affect health outcomes after controlling for self-reported appraisals of threat. Thus, the researchers' purpose for the study was to determine the role of cognitive appraisals in the emotion regulation process, and whether psychological resilience is the responsible factor for the positive effects on the individuals' biological activity. Tugade et al. (2004) collected data from undergraduate students aged 18 to 22, 49% of the population was female. The findings indicate that individuals with higher trait resilience had increases in three positive emotions: eagerness, excitement, and interest. Tugade et al. (2004) results revealed that individuals with higher resilience had shorter durations of cardiovascular reactivity than those with low resilience, returning the individual back to normal cardiovascular conditions and reducing stress on the heart. Thus, it can be seen that personality does correlate with psychological resilience in some regard, and resilience can be associated with lower levels of physical stress and better health outcomes, even when controlling for appraisals of threat. This study suggest that psychological resilience is an important factor in how individuals cope with stress and allow individuals' to regulate negative emotional experiences.

Cicchetti (2010) examined how children growing up under stressful conditions may impair development of biological and psychological functioning. After a longitudinal investigation examining pathways to resilience in nonmaltreated and

maltreated children, Cicchetti (2010), found that major predictors of resilient functioning were related to the emotional subscales including the ability to monitor and control impulses, ego resiliency, and positive self-esteem. According to Cicchetti (2010), individuals' attachments, personality characteristics, and self-system processes were more important for achieving resilient adaptation. The study found that the self-system variables of self-reliance and self-confidence in conjunction with interpersonal reserve can have positive effects and strengthen their resilience within the home environment.

Even such unexpected practices such as joining a club, going on a retreat, or taking a family vacation can impact components of psychological resilience (Walsh, 2004). Walsh (2004), found that individuals who utilized their community resources were able to improve their financial security, social support, and their basic need for connectedness. Weston (1991), examined the challenges that the gay community dealt with regard to coping with the AIDS crisis along with the family challenges that have become more complex and required reorganization within the family, these individuals were found to increase their resilience by forming or joining "families of choice," and this has been invaluable for the individual to cope. Findings show that the lack of community response to hardship, family disruptions and blaming low income minority families for personal and social problems can lead to racism and dehumanizing conditions. Aponte (1995), in poor communities, the family is challenged with finding basic resources in order to build a sense of dignity, purpose, and self-worth, which led to optimism and hope, the core elements of resilience.

The aforementioned studies show that understanding the sublevels of family resilience and the possible covariates can be important. Thus, a more detailed review of the literature that examines the specific sublevels is to follow.

Belief Systems

The belief system includes finding the meaning of adversity, developing a positive outlook, and expanding the individuals' spirituality. For example, Walsh (2007) found that individuals' and family's belief system are rooted in cultural and spiritual traditions influencing the members' perceptions and coping ability to the traumatic experiences. Thus, this study suggested that an individuals' belief system can facilitate posttraumatic growth and reduce vulnerability and risk from a traumatic loss (Calhoun & Tedeschi, 2006). According to Walsh (2007), resilience is fostered by helping the individual examine their loss and understand the traumatic experience by sharing trauma and emotions with others in the family and with outside resources including counselors, religious leaders, and medical professionals.

"Meaning reconstruction" is essential to the healing process of trauma and loss (Neimeyer, 2001). During a traumatic event assumptions that individuals have developed such as communities are safe, children outlive their elders, and God is just can be shattered leaving the individual feeling lost without meaning and purpose (Kauffman, 2002). By focusing on the core belief system of the individual and sharing the experience with family, the individual will be provided an opportunity to regain their sense of reality, meaning, and purpose of life (Walsh, 2007). Reconstructing the traumatic experience can help families and individuals address concerns and emotions that persist after the trauma

(e.g., feelings of blame, shame, and guilt). Examining the trauma will help the individual to share concerns about responsibility, negligence, and limits of control in the situation and reframe the experience in order to gain knowledge and use as a guide for the future (Walsh, 2007).

Walsh (2007) also explained that after traumatic events “hope” is an essential element for recovery, helping individuals to rebuild their life, renew attachments, and build positive “legacies” that can be taught to future generations. Part of building resilience after trauma is accepting the loss and understanding that past events cannot be changed while also seizing opportunities that present after the tragedy; this concept is known as “mastering the possible” (Walsh, 2007).

Organizational Patterns

Walsh (2007) found that organization is essential for the family when developing resilience to a traumatic events. Walsh argues that emotions such as fear, disorientation, and loss of safety are often activated during a trauma, especially for children. Walsh (2007), stated during a traumatic experience individuals and families lose their basic infrastructure, and they must reorganize, recalibrate, and reallocate roles and daily functions. By families and individuals remaining flexible to unforeseen challenges, having strong leadership, developing social networks, and establishing clear rules, the family and the individual will be able to maintain self-identity and achieve goals and tasks (Walsh, 2007).

Yet another noteworthy area of the found within Walsh’s model is how different family members, who have experienced a trauma, express and process their emotions.

Walsh (2007) explains that family members need to be tolerant of the individual member, some display clinging, others may distance themselves from the group. During chaotic and traumatic situations, individuals tend to examine their relationships and this could cause loss of trust and security, increasing the risk of estrangement and intensify unresolved conflicts (Walsh, 2007). Walsh argued that by encouraging the family to stay connected, they will foster relational healing, reconnection, and reconciliation.

Speck (2003), stated that with major trauma and loss it is important to mobilize institutional services and utilizes resources such as extended kin, social interaction, and community networks to increase emotional and practical support. Individuals that have outside social networks are able to share common experiences including painful memories and feelings and gain mutual support, which should encourage hope and increase recovery (Walsh, 2007).

Communication Processes

The ability to clarify facts, share intense feelings, and increase problem solving skills is yet another component of psychological resilience. For example, Boss (1999) found that during traumatic events, it is important for an individual to have clear consistent information to avert confusion. Overall, the reviewed literature suggested that having a strong leader during the traumatic situation and keeping every member of the family informed with regard to changes occurring or updates of new plans and roles will help to reduce frustration and uncertainty.

Experiencing a trauma can invoke intense feelings of rage, fear, sorrow, and guilt for those individuals who have survived the loss; these feelings can be spread through the

individuals' family and community networks (Walsh, 2007). When these feelings are unable to be expressed the individual has a higher risk of somatic and emotional disturbances, displaying destructive behavior, and substance abuse. According to Walsh (2007), it is crucial for the individual to build mutual trust and receive empathic responses from others in order to cope with the fluctuation of emotions.

To build resistance it is important for the family, to rally community collaborative efforts in order to meet goals and celebrate progress (Walsh, 2007). By problem solving and setting realistic goals and tasks over time the family and the individual are able to recover and start rebuilding their lives. Walsh (2007) states that it is crucial to learn from any trauma so that the individual is able to be proactive toward any future threats including, developing plans to decrease risks, suffering, and strengthen the connection.

Based on the aforementioned research therefore, psychological resilience is a concept that can be of great importance for and individuals' ability to engage in positive interpersonal relationships, health, and personal growth. Given its importance, psychological resilience should not be overlooked when treating individuals who may be faced with challenges in their personal lives, including interpersonal relationships that call for personal growth to enhance their well-being. These findings suggest that psychological resilience could have an impact on personal growth after a traumatic event.

The literature so far has shown that psychological resilience plays a vital role in family and individual lives, including interpersonal interactions. Each member of the family could benefit from developing and establishing healthy relationships within the family unit; thus enhancing psychological resilience could improve the individual's life

tremendously. Furthermore, individuals face certain challenges throughout their lives and depending on how they handle these events can determine whether a person experiences growth. The subsequent sections will discuss personal growth after various stressors, including relationship difficulties.

Psychological Resilience and Interpersonal Functioning

As Walsh's theory of family resilience suggests, psychological resilience might be valuable in increasing an individual's interpersonal functioning and wellbeing. Some areas in which psychological resilience has been investigated with regard to increasing desirable emotions and behaviors and interpersonal interactions is with abused women, traumatized children, and marital relationships. Hence, such behaviors and positive interactions can have an impact on school, work, and marriage, improving relationships, and increasing the success rate within an organizational or educational environment. Having a better understanding of how psychological resilience impacts an individual in these settings can promote personal growth after a difficult or traumatic event (DiLillo, 2001).

Some researchers have defined resilient functioning as achieving normal developmental tasks (Farber & Egeland, 1987) or achieving positive adaptation scores on normed measures (Sagy & Dotan, 2001). Cicchetti, Rogosch, Lynch, & Holt (1993) examined resilience by determining adaptive functioning based on seven indices including pro-social behavior, disruptive-aggressive behavior, withdrawal, depression, internalizing and externalizing problems, and school risk (attendance, disciplinary actions). The children examined in this study were categorized into their level of

competence depending on the number of indices that they met for functioning. The study found that both non-maltreated and maltreated children were equally represented in the high functioning group. A larger proportion however, of maltreated children were represented in the low functioning group, 22% of maltreated children were not high functioning on any index, and were only competent on one of the seven indices (Cicchetti et al., 1993).

Rogosch and Cicchetti (2004), examined the diversity in personality organization among maltreated and nonmaltreated children. The study focused on the Big Five personality dimensions for each child participant. A cluster analysis revealed that there were five subgroups of children who shared similar patterns with regard to their personality dimensions. There were two clusters “Gregarious” and “Reserved”, which were associated with resilient groups in other studies (Haskett, Nears, Ward, & McPherson, 2006). Although the majority of maltreated children were categorized in the less adaptive clusters, there were some maltreated children who displayed evidence of stability in their personality characteristics through middle school that were categorized in the Gregarious and Reserved clusters (Rogosch et al., 2004).

The relationship between protective factors IQ and adaptation were examined (Shonk, & Cicchetti, 2001), focusing on the potential mediating factors of academic (engagement, social competency, and ego resiliency). Results indicated the academic competence (cognitive competence, scholastic effort, self-direction, and motivation) were attributed with much of the association between maltreated children and lower academic adjustment (Shonk et al., 2001). Haskett et al., (2006), states that social competence and

ego resiliency accounted for the strongest link between maltreatment and behavioral adjustment.

Psychological Resilience and Interpersonal Relationships

Each individual is affected in some way by their daily interactions with family, friends, co-workers, and the community. These interactions allow individuals to cope and maneuver throughout their lives. Hence, as with work and school environments, understanding which factors contribute to healthy relationships and how to increase personal growth can be of great benefit. For this reason, literature will be presented that displays how psychological resilience can influence interpersonal relationship and how it can potentially improve the individual's personal growth. For example, developing appropriate interpersonal relations, such as with counselors, friends, and family, can promote resilience in children (Flores, Cicchetti, & Rogosch, 2005). In a study done by Flores et al. (2005), evaluating Latino maltreated children versus non-maltreated Latino children, the interpersonal relationships formed by the nonmaltreated children positively correlated to being more affectionate, more open to communication, and received higher total relationship scores than maltreated children. Flores et al. (2005), further utilized a hierarchical regression analysis examining maltreatment status, gender, and intellectual ability to see how these variables contributed to resilient functioning. The finding that the non-maltreated Latino children who had higher ego-resiliency and higher receptive vocabulary displayed higher levels of interpersonal relationship factors correlated with significantly higher resilient functioning (Cicchetti et al., 1997).

Parenting practices within the social context are important predictors for child adaptation from infancy through adolescence (Booth, Rose-Krasner, McKinnon, and Rubin, 1994). The role of caretaking and its effects on maltreated children is evidenced from adolescence and into adulthood. Herrenkohl et al., (1994), offers insight into the role of parenting and the family context in resilient functioning with maltreated children and adolescents. His study shows resilient individuals experienced only sporadic abuse and had stable caretaking over the course of their life and expressed high functioning in self –sufficiency and independence. The study also found that children whose parents who were dealing with their own health issues, became more independent and these children tended to develop protective factors, which led to successful adaptation in school (Herrenkohl et al., 1995).

Luthar and Ziegler (1991) stated that relationship with individuals outside of the immediate family is important in building resilience for children and individuals at risk for maladaptation and identified the two most important as the relationships with peers and non-parental adults. Bolger, Patterson, and Kupersmidt (1998) explored the role of extra-familial relationships as a protective factor for maltreated children. The results indicated that children with high-quality friendships developed higher self-esteem and better adaptation to the environments in which they lived. The results of a study done by Perkins and Jones (2004) found that the protective nature of friendship varied depending on the quality of friendship the child formed. They discovered that maltreated children who developed friendships with individuals who engaged in risky behaviors (drugs, alcohol, etc.) experienced more adjustment problems than maltreated children who,

despite their high risk behaviors, developed friendships with individuals who displayed healthy behaviors. Deviant peer relationships have the potential to contribute to stress that the individual is currently experiencing instead of serving as a protective factor (Haskett et al., 2006). Thus, given the importance of high quality peer relationships, and the social and emotional adjustment of the individual, it may be important for the individual to join outside activities apart from the family enabling the individual to cope better with stressful situations such as caring for a spouse with an illness.

Cicchetti (2010), stated that in recent studies the investigations have focused on factors associated with resilient functioning including close relationship with caring adults and caregivers, self-regulation, positive self-perception, self-efficacy and determination, and strong relationships with well-adjusted and prosocial individuals. Cicchetti (2010) found that resilient individuals perceive stressful events in less threatening ways and are able to reframe the adverse experience by relying on their spirituality, finding a deeper meaning in the situation, and developing a positive outlook. Given the high percentage of disorganized and insecure attachments among individuals, the argument for examining the importance of relationship factors becomes more vital to the attainment of resilience in the individuals' life (Cicchetti, 2010).

Chronic illness, among other stressors, has an external impact on the relationship and the satisfaction each partner has with each other. These stressors can affect their interaction patterns and cause disruption in the interpersonal functioning for both the patient and the caregiver (Bodenmann, 1997). This pattern of disruption is also referred to as the "stress spillover" phenomenon because chronic stress of the type that a

prolonged or severe illness can induce, can adversely affect the marital relationship and introduces conflict that the couple is unfamiliar with and lacks the ability to resolve (Karney, Story, & Bradbury, 2005). Badr, and Cramack Taylor (2008), found that cancer patients and their spouses had several obstacles to face and rather than focusing on the obvious concerns of finances, division of labor, and interaction/communication problems, they focused on the couples separate grievances in order to help the couple understand each other's perspective. According to the American Cancer Society (2007), cancer patients often report pain, fatigue, functional decline, and anorexia, and more than 44% report experiencing depression and frustration in conjunction with their lack of control. Although it is obvious that cancer patients and those with other chronic illnesses are suffering from the pain, and the adverse effects of their treatment, and the debility of their prognosis, the caregivers' hardships are often overlooked and difficult to understand. Spouses may experience an equal or greater amount of stress than the cancer patient due to the responsibilities of caring for the patient while continuing to perform at work, keep up with finances, and help the family member with daily tasks (Northouse, Mood, Templin, Mellon, & George, 2000). The spousal relationship is important for the cancer patients overall wellbeing. Having a strong support system will enhance the patient's QOL, decrease depression, and improve the patient's prognosis (Badr, & Cramack Taylor, 2008). From this perspective, understanding how couples maintain strong relationships, while coping with chronic stress may aid in developing successful interventions for other couples dealing with the problems associated with chronic illness, minimize the potentially negative effects, and increase marital adjustment.

Woods and Lewis (1995), performed a study working with 48 women who had a diagnosis of breast cancer, diabetes, or fibrocystic breast disease and who had a domestic partner and at least one school aged child in the house. The study focused on how the women addressed their chronic illness while maintaining a family and work. The data that was obtained showed that the demands associated with the illness resulted in marital adjustment problems. Women who utilized higher introspective coping behaviors, showed a decrease in depression and increased adjustment skills (Woods et al., 1995). Women who had support from their spouses and peers functioned at an optimum level, engaged more frequently with their family, had decreased depression, and a more positive marital adjustment than those lacking in spousal and peer support (Wood et al., 1995).

Psychological resilience has a critical impact on interpersonal interactions and an individuals' QOL. Relationships are constantly changing, can often becoming frustrating, and can elevate depression for those individual's involved in a marriage. In order to have a successful marriage and happy home life the individual has to build strong supportive relationships, increase their communication skills, and share personal fears and other emotions that could potentially have a negative effect on the relationship. Resilience can potentially increase an individual's ability to handle chronic stress, improve mood, and enhance an individual's insight toward the stressful situation and the effect it has on others in the relationship. Having these skills may improve interpersonal relationships and promote better QOL for both the patient and the caregiver. Thus, if an individual has difficulties within their relationship, implementing a relationship intervention can be beneficial and help the individual understand their emotions and the feelings of others in

the family. Individuals who have positive social supports are likely to have and may potentially demonstrate and improvement in their quality of life and personal growth after the impact of the stressor.

Psychological Resilience and Managing Interpersonal Stress

Having a loved one diagnosed with a chronic illness is certainly a difficult life event and can provoke chronic stress. Depending on how people manage their stress at the initial onset of the illness and after can impact their resiliency and in turn, could potentially influence the individuals' personal growth and QOL. Persistent stress for unhealthy individuals can cause long-term effects and may damage health (Schneiderman, 1983). Adverse effects of chronic stressors are common with an individual whom have a chronic illness, the negative effects often elicit a broad range of adverse living and working conditions (Schneiderman, Ironson, & Siegel, 2008). The relationship between psychosocial stressors and chronic illness is complex depending on the nature of the illness, the number of stressors the individual is facing, and the persistence of the stressors (Schneiderman et al., 2008). Examining factors regarding biological vulnerability (i.e., genetics, constitutional factors), and coping ability will help give insight to the mediating psychophysiological pathways and the variables known to mediate these relationships (Schneiderman et al., 2008). Research regarding stressful events can provide insight into how psychological resilience can promote and develop effective coping skills and enhanced communication during difficult life events.

Stress has been associated with exacerbations of autoimmune diseases (Harbuz, Chover-Gonzales, & Jessop, 2003) as well as other conditions with inflammation as a

central factor (Appels, Bar, Bar, & Bruggeman, 2000). Evidence suggests that when the chronically ill individual experiences stress their cortisol levels have difficulty suppressing the proinflammatory cytokine production leading to a higher risk of exacerbations and negative symptomatology (Miller, Cohen, & Ritchey, 2002). Miller et al. (2002), argues that the immune cells become resistant to the effects of cortisol allowing the chronic stressors to promote proinflammatory production indefinitely. For example, individuals who have rheumatoid arthritis stress can lead to increased inflammation causing joint damage, swelling, pain, and a reduction in mobility (Affleck, Urrows, Tennen, Higgins, Pay, & Aloisi, 1997). Likewise, individuals with MS have an overactive immune system that targets and destroys myelin in the brain contributing to symptoms of paralysis and blindness, this coupled with chronic stress these negative effects can cause the illness to create permanent damage to the individuals physical health (Mohr, Hart, Julian, Cox, & Pelletier, 2004). Contributing to the physical health factors, prolonged proinflammatory cytokine production may also affect mental health by bringing on depressive symptoms caused by increased fatigue, diminished appetite, and listlessness (Dantzer, 2001).

Schneiderman et al. (2008) stated that symptoms of illness have often been considered inconsequential or maladaptive, but he makes the point that the opposite can actually be thought that these symptoms can promote resistance and facilitate recovery. Schneiderman et al. (2008) explains that with a decrease in activity the individual is able to preserve energy and redirect the activity to enhancing the immune system as well as fight infection. Sickness behavior can become maladaptive when continuously repeated

with an overlap with major depression such as with MS patients (Mohr et al., 2004). Although depression is common in MS patients due to the number of stressors they face, when compared to other patients with similar disabilities MS patients tend to report higher levels of depression due to higher levels of inflammation (Ron & Logsdail, 1989). Thus, there is evidence to suggest that chronic stress contributes to physical and mental disadvantages through the mediating of proinflammatory cytokines (Schneiderman, 2008).

Considering that chronically ill patients tend to have life-threatening diseases they must confront several stressors daily and these stressors may impede the individual's resilient coping skills and cause dysfunction with their interpersonal resources (Schneideman et al., 2008). Interventions such as cognitive-behavioral stress management (CBSM) have shown to improve the quality of life with chronically ill patients by decreasing stress, improving mood, encouraging social support, and facilitate problem solving (Schneiderman et al., 2001).Psychosocial interventions have also shown an improvement regarding chronic pain, these interventions have been correlated with reduced distress and perceived pain and an increase in physical activity allowing the chronically ill patient to return to work in most cases (Morley et al, 1999). Schneideman et al. (2001) stated that there has even been evidence documenting that psychosocial intervention had a positive influence on disease progression. Hence, enhancing psychological resilience and coping strategies by utilizing psychosocial interventions could benefit patients and caregivers in improving vital interpersonal skills.

Stress is a part of everyone's life, and it must be met with adaptive responses. Managing and understanding the emotions of an individual with interpersonal relationships could possibly improve coping skills and difficulties in relationships, and reduce depression and pain. Lazarus and Folkman (1984) explain that most people are exposed to stressful situations at the societal, community, and interpersonal level, but it is how an individual meets the challenges that will determine their health and coping strategy. Garmezy (1991) and Glanz & Johnson (1999) found that individuals' who are optimistic and have good resources and coping skills will benefit from chronic stressors. In contrast, those individuals who have few interpersonal resources and poor coping skills will have a difficult time with chronic stress and these individuals are at risk for developing diseases (Schneideman et al., 2008). Thus, utilizing psychosocial interventions could increase self-awareness, self-management, and relationship management.

Psychological Resilience and Managing Stress

Being diagnosed with an illness is certainly a difficult life event, and how people manage their stress through this event and going forward will have an impact on their level of resilience and could influence personal growth. Research regarding stressful and traumatic life events could give some insight into how psychological resilience could enhance coping and personal growth during difficult and stressful events.

Previous studies have already shown that psychological resilience could help individuals cope with interpersonal stressors. It could be argued that individuals who cope better with stressful situations could be healthier and have better personal

relationships. Kessler, Price, and Wortman (1985) argued that there is only a small direct effect of life stress on physical and mental health; while Clements and Turpin (1996) state that life stress has a significant effect on individuals' physical and mental wellbeing. Although there are differences, the researchers agree that some individuals can experience a high degree of stress without it affecting their health functioning. Rutler (1990) states the importance of separating the protective factors (IQ, temperament, etc.) from the protective mechanisms (coping style or explanatory style) in order to successfully gauge resilience. Rutler (1990) argues that the development of protective mechanisms help the individual to deal with adversity while Leonard and Burns (1999) state that individuals develop protective mechanisms during the adverse situation and use these mechanisms to negotiate through the stressful event. Beasley, Thompson, and Davidson (2003) examine how coping style and cognitive hardiness effect psychological functioning considering several factors including life stress, life trauma, anxiety, depression, and somatic symptoms. Through the use of the Life Experiences Survey (LES), Stressful Life Events Screening Measure (SLESQ), Coping Inventory for Stressful Situations (CISS) and subscales of the SCL90-R, Beasley, Thompson, and Davidson (2003) discovered females tend to deal with stressful life events with emotion-oriented coping and cognitive hardiness, the findings suggest that with higher emotion-oriented coping the individual increased their depression but with higher cognitive hardiness they were able to reduce their depression. The researchers also found that if emotion-oriented coping and cognitive hardiness were used together the individual was able to reduce their depression, anxiety, and somatization. The results for the males indicated that they

utilized cognitive hardiness and social diversion-oriented coping to deal with adverse events. Beasley, Thompson, and Davidson (2003) found that high cognitive hardiness reduced depression and higher scores in social diversion-oriented coping elevated depression. As with the females if cognitive hardiness and social diversion-oriented coping are utilized in combination the males reduce their depression, anxiety, and somatization. According to the study cognitive hardiness was a significant factor for both males and females when dealing with negative life events and decreasing somatization.

According to Bonanno, Rennicke, and Dekel (2005) the majority of people exposed to violent or potential traumatic events do not develop PTSD and most demonstrate resilience to the event. One of the most documented traumatic experiences is the September 11th attacks in New York City; one study documented the resilient outcome after the traumatic event by utilizing conservative criterion including few or no trauma symptoms and little to no depression at the 7to 18 month time period (Bonanno et al., 2005). The study revealed that there was an unusually high level of proportion and in the same sample more than one-third suffered from chronic symptom reactions. Most of the participants in this study had directly witnessed a death or had a personal injury, and in some cases the individual was exposed to physical danger during the attacks. Bonanno et al. (2005), found that even with the group of people that had the highest level of pernicious levels of exposure including PTSD, being injuring in the attack, loss of a loved one, and witnessing firsthand the attack, resilience was still observed in 53.5% of the population. Mancini and Bonanno (2006) stated this finding suggests that the condition

and the pernicious levels of trauma exposure may reduce resilience but that it would still be prevalent.

Avey, Luthans, and Jensen (2009) were concerned with employees and their ability to adjust to the demands of the workplace and the stress that comes with their field of employment, which can cause individuals to quit and search for new jobs. According to the World Health Organization occupational stress is a worldwide epidemic and is prevalent throughout the American industry (Avey et al., 2009). Riga (2006) found in a recent analysis that 20% of the payroll for a typical company goes to helping their employees deal with stress related problems. Apparently many Americans identify work as their initial source of stress due to heavy workloads, long hours, job expectations, and insufficient compensation (Princeton Survey Research Associates, 1997). Colligan and Higgins (2006) have done extensive research on identifying stressors, coping mechanisms, and finding ways to help organizations and employees to manage stress. Avey et al., (2009) studied a large sample of working adults spanning a variety of industries and they suggest that psychological capital (e.g. positive resources, hope, optimism, and resilience) is the key to understanding employee stress and their work behaviors. The authors utilized the emerging positive approach for their study drawing from positive psychology; this approach does not discover the value of positivity but, rather, finds a more positive approach when dealing with negative circumstances (Avey et al., 2009). The authors utilized the worked done by Luthans and Youssef in 2007, which provided the positive perspective foundation for their study, the perspective focused on the individuals' strengths and psychological capacities to manage stress and

increase performance (Avey, Luthans, & Jensen, 2009). According to Colligan and Higgins (2006) there are several types of workplace stress including technological upgrades, manager bullying, global competitive pressures, travel and increased workloads (Hymowitz, 2007), and job insecurity (Princeton Survey Research Associates, 1997) can create a toxic workplace. The Princeton Survey Research Associates (1997) performed a study and found that 50% of Americans state that their stress level at work has significantly increased over the past five years, 74% states that work is their biggest stressor, which is up from 59% in 2006. Although stress can have positive outcomes such as increased creativity (Le Feyre, Matheny, & Kolt, 2003), and enhanced performance (Marino, 1997), stress can result with increased health problems, higher accident rates, and burnout (Bernard & Krupat, 1994). The authors utilized resilience as one of the factors in combating workplace stress, they found that resilience is arguable the most important positive resources for the employee when navigating through a stressful work environment (Luthans, 2002). Recent research indicates a positive link between resilience and employee performance (Luthans, Avolio, et al., 2007), job satisfaction, commitment to the organization, happiness, and increased ability to cope with massive corporate downsizing (Youssef & Luthans, 2007). According to Coomber and Barriball (2007), resilience may be the key factor when determining how employees respond to stressful workplace situations. Avey et al. (2009) found that there was a significant negative relationship between Psychological Capital of employees and their symptoms of job related stress; this contributes to the understanding that employees utilize positive resources in their PsyCap to fight dysfunctional effects of stress and turnover. The

researchers also found that employees who utilized their PsyCap also showed a significant negative relationship with both their intentions to quit and search for other job placements. Thus, intervention would be done at the HR level to include training and development to enhance the employee's positive resources (efficacy, hope, optimism, and resilience) to combat stress and turnover (Avey et al., 2009).

The literature demonstrates that individuals could benefit from resilience training and increase his or her coping skills when dealing with stressful situations, which possibly could be translated into a healthier and more successful life including relationships with family, friends, and in the workplace. Thus, just as was explained that resilience training in the workforce would benefit employees, such intervention may benefit family members coping with loss and caring for others dealing with chronic illness. When family members receive such training, they may be able to carry this knowledge to increase self-esteem, to improve their health, and to enhance their caregiving ability. Coutu (2002), found that resilience may be dispositional and trait-like, but there is considerable evidence that is also state-like and open to development. Therefore, when family members receive training that enhances their resilience it may lead to improved health and enhanced coping skills when dealing with stressful life events.

Psychological resilience is an exciting construct that has been applied in many current studies, especially in the field of positive and clinical psychology in several different settings. From the literature review, it becomes clear that psychological resilience may have important implications for an individuals' well-being and in their

interpersonal relationships, which may extend to their overall life satisfaction and improve health. Training in resilience could possibly lead to enhanced well-being, improved health, better coping skills, and improved relationships, which could be investigated in the family setting and other environments.

Psychological Resilience within the Spousal Relationship

When a family member becomes chronically ill either mentally or physically, this will affect the family as a whole. Of course, depending on the relationship with the chronically ill individual a variety of emotions can be expected. Understanding how psychological resilience can influence an individuals' growth, his or her emotions (experienced and expressed) need to be examined. Although the resilience of the individual varies, marriage can lead to different or possibly longer-lasting effects of resilience and outcomes. Literature that focused on the stressful events that marriages face could lend some insight into the course of the individual and couple emotional experiences. Relationships have many challenges and stressful situations, the couple continually has to work together to master these challenges and move forward with their lives. When a family member becomes chronically ill, it could result in feelings of devastation, insecurity, frustration, and anxiety, whereas the individual having to care for the sick individual may experience a different set of emotions, possibly including helplessness, burden, and resentment. Depending on how the individual responds to those challenges will either strengthen or weaken the marriage and affect personal growth. Regardless of which perspective is examined the individual is still going through stress and will need to learn how to cope with the situation. An individual could view this

experience, however, as an opportunity to find inner strength and develop personal growth.

Marriages operate with broad environmental contexts (stressful life events, work stress, financial difficulties, etc.) that eventually test the strength and durability of the relationship (Neff & Broady, 2011). Marriages undergoing these stressful contextual situations can suffer from a phenomenon referred to as “stress spillover” (Randall & Bodenmann, 2009). Stress spillover occurs when a couple is exposed to high versus low levels of external stress, which indicates that when the couple is facing more severe stress the greater risk for their marriage to decline (Bodenman, 1997). Longitudinal studies examining couples who have been dealing with high amounts of stress show that marital satisfaction tends to be lower, and their satisfaction becomes higher during periods of low stress (Neff & Karney, 2004). Thus, it is clear that stressful contexts adversely impact the marital quality (Neff et al., 2011). Although this evidence represents many relationships, there is other literature indicating that marriages can emerge from stressful events (chronic illness, death of a child, natural disasters, etc.) and actually improve and grow (Neff et al., 2011). There have been several theories that have begun to focus on the positive effects of stress and how to enhance well-being in the relationship (Story & Bradbury, 2004). Updegraff and Taylor (2000) found that stressful life events may provide an opportunity for individual growth by focusing on their untapped coping resources and increasing their confidence to deal with stress. Thus, individuals who are exposed to moderate stressors are able to develop initial resources that are necessary to

overcome the stressful situation and develop resilience for future severe stressors (Neff et al., 2011).

According to Finkel and Campbell (2001), constructive relationship behaviors require self-control to dispel destructive behaviors. Baumeister (2002) states that self-regulation and self-control tend to be limited resources for most individuals, and they tend to become exhausted when faced with several stressors at once. According to the literature self-regulation and self-control are like muscles and can be strengthened but it takes practice and facing moderate stressors throughout the relationship will help with future stressors (McCubbin & Patterson, 1983). The stress inoculation theory suggests that coping with manageable stressors is essential for building and strengthening the individuals' assets, this is much like how a vaccine works by exposing the individual to a weakened form of the disease to promote the creation of antibodies in order to fight the full disease or stressful event (Meichenbaum, 1985). Each theory that has been examined has one common element that is required for the individual to cope with stressors, the individual must possess adequate resources to help adapt, increase confidence, and master stressful events.

A study done utilizing female rape victims revealed that the individuals who had experienced another stressful life event (death of a family member, chronic illness, loss etc.) recovered more quickly than the females who have never experienced a prior stressful experience (Burgess & Holmstrom, 1978). Other research found that some individuals have a more positive mood following a stressful event than on stress free day (Bolger, DeLongis, Kessler, & Schilling, 1989). Holahan and Moos (1990) found that

individuals who experience stress and develop coping skills tend to have more resources, improved family support, and decreased family conflict. Little research has been done examining the effects of the stress inoculation theory within a marriage (Neff et al., 2011). A longitudinal study utilizing newlywed couples found that in the early years of marriage declines of satisfaction for the couple decreased their ability to problem solve, but if the couple went through several stressors early on they were more likely to develop satisfying relationships as the marriage continued (Cohan & Bradbury, 1997). Another study found that couples that experienced economic hardship were more likely to increase their problem solving skills and less likely to experience dissatisfaction in the relationship (Conger, Reuter, & Elder, 1999). Thus, this research suggest that couples engaging in moderate stress may increase their problem solving skills and develop stress resilience, which may help later in the relationship with chronic or severe stressors. Spouses need good initial resources when entering a marriage but then also need to develop more resources while in the relationship to manage stressors (Neff et al., 2011).

It can be seen that many factors can influence the way an individual reacts to chronic stressors and how it may affect a marriage, including work stress, chronic illness, and a traumatic experience (natural disasters, death of a family member, etc.). However, simple understanding these stressors does not help to improve the marriage or the individual, there needs to be some form of intervention to guide the couple and individual to personal growth. The insight gained from the literature can aid in finding interventions that could lead to personal growth.

To understand how psychological resilience and personal growth could be used in the future, current interventions will be examined in the next section. Such evaluation will contribute insight to the necessity of understanding resilience and its relationship with personal growth and improving QOL.

Integrating Psychological Resilience into Marital Interventions

Abundant evidence has shown that the individual forms associations, often significant ones, which exist between the quantity and quality of relationships and different outcomes including recovery, the functioning of the immune system, reactions to stress, and life satisfaction (Fisher, & McNulty, 2010). The effects that form these associations are directly influenced by relationship events on the biological process than by any other factor including personality, temperament, behavior, or lifestyle (Kiecolt-Glaser & Newton, 2001). According to Bugental (2000), forming small cooperative groups is a primary survival strategy for humans to protect from the dangers of the natural environment, this concept is known as "algorithms of social life," and is composed of interlocking relationships within an individuals' social network. Thus, examining studies integrating interventions with professionals could also help increase understanding when formulating treatments that include resilience and personal growth for married individuals.

One study examining the effectiveness of yoga and how this technique could be utilized in enhancing emotional well-being and resilience to stress among university employees (Hartfiel, Havenhand, Khalsa, Clarke, & Krayer, 2011). This study used randomized controlled trials at a British University examining if introducing yoga to the

daily routine of their employees would improve their emotional well-being and mood. The study showed that the participants who did participate in the yoga intervention felt significantly less anxious, confused, depressed, tired, and had a greater sense of life purpose along with satisfaction and increased confidence (Hartfiel et al., 2011). This research is pertinent because it focused on the emotional well-being of the individual in a stressful situation, and looked at a strategy that could be implemented to interrupt the stress by having the individual develop a self enhancement plan, improve physical well-being, and reduce physiological stress (blood pressure, fatigue, anxiety, and depression). This strategy seems to require an effort physically but also mentally. Yoga consist of physical and mental concentration, one of the stages of yoga is relaxation, which involves three parts (a) breathe and relax, (b) visualize and affirm, and (c) stretch and awaken (Hartfiel et al., 2011). During this stage, the individual takes quiet time to activate their nervous system and promote emotional balance. In the relaxation phase, the individual would be able to examine their own feelings and behaviors while also calming themselves and possibly being able to take another's point of view into account such as their spouse.

Another form of intervention approach that utilizes employees and encourages stress reduction was investigated by Spangler, Koesten, Fox, and Radel (2012). In the study Spangler et al. (2012) used three levels of approaches with employees (a) preventing stress/building resilience, (b) providing information, resources, and benefits, and (c) intervening actively with troubled employees. This study found that individuals formulate stress in the workplace when the work is distressing and individual has high

job demands but low control or low decision making authority (Spangler et al., 2012). The study also found that regular and clear communication helped in reducing distress especially during the economic downturn and layoff periods. Communication seems to be an imperative goal of building a thriving team of healthy employees and improving the financial success of the business (Spangler et al., 2012). The researchers found that by implementing these approaches and proactively reaching out to employees with chronic illnesses (diabetes, heart disease, or depression) and educating them about health management processes and financial stability the employers were able to increase the attendance in the workplace (McCraty, & Tomasino, 2006). In regard to psychological resilience, it also seems that these approaches would require the individual to examine their own feelings and communicate effectively with their employer or other professions. Thus, adding these approaches to a couple's therapy could be beneficial in addressing emotions and stress. The literature in regard to professionals has shown that the way an individual handles stress can impact their relationship with the people around them in any situation and interventions aimed at improving communication, self-awareness, and resources could be beneficial.

Personal Growth after Stressful Life Events

Personal growth comes from the foundation of the individuals' life including values that influence the decisions, relationships, career, and other activities (Taylor, 2012). To understand personal growth the individual needs to deconstruct their values and examine their past, present and future life and reflect on past and present decisions. The process of finding benefit in a negative or stressful event and thus learning from it by

deriving meaning from the experience results in the acquisition of wisdom (Bluck & Glueck, 2004). Wisdom gained from these past stressful experiences helps individuals to negotiate through future stressful challenges by utilizing lessons learned from past experiences (Bluck et al., 2004). Davidson, Bondi, and Smith (2005) found that by tapping into previously unrealized strengths the individual gains an enhanced sense of self, which provides resilience when facing stressful situations.

One of the most important concepts of increasing psychological resilience and promoting personal growth is acceptance. Brandtstadter and Santos (2009) developed a dual process model of adjustment in which the individual abandons unattainable goals as a way to protect against the loss of well-being. According to Brandtstadter and Santos (2009) acceptance of ones' limitations is a core component of wisdom and can benefit the individual in the long run. This is not to say that the individual cannot grow and expand their limitations but by reexamining their growth throughout their life and their current abilities they will be able to reduce undue stress. Later life usually means that personal resources have been diminished, and the individual is expected to utilize their gained wisdom in order to shift from extrinsically motivated goals to more intrinsically valuable goals (altruism, spirituality, and intimacy) (Brandtstadter & Santos, 2009). According to the researchers the key to personal growth and resilience is finding a balance between commitments to previous goals and adjusting goals while continuing to maintain one's values and direction in life (Brandtstadter & Santos, 2009).

After experiencing a stressful life event, an individual may go through a process involving some dysfunction, reintegrate with loss, return to homeostasis, and finally

achieve resilient reintegration with new insights or growth (Richardson, 2002). According to Richardson (2002) the energy for resilient reintegration is an innate force that each individual processes and this motivates the individual to seek self-actualization, altruism, wisdom, and spirituality. Stressful situations that interrupt the individuals' important goals and render those goals unattainable may cause confusion with the individuals' life and intense emotional distress initially and may in the long run cause a decline in the individuals' ability to cope with changes (Calhoun, & Tedeschi, 2002). However, there are many people who utilize these experiences of trauma and stress to create a better and more enhanced life promoting development and growth by replacing lost goals with new and improved ones (Tedeschi, Park, & Calhoun, 1998).

Another study involving MS patients demonstrated the possibility of growth after being diagnosed. According to Pakenham (2005) the care recipient (MS patient) was able to develop positive life satisfaction, affect, and dyadic adjustment during the study, whereas the career (family member) went through more negative distress than the patient. The study found that sustaining positive psychological states within the family promotes a better relationship between the carer-care recipient and better well-being for each individual. Unfortunately, people have certain expectations when entering into a family and taking on certain roles such as caring for babies, children and the elderly, but many do not expect to become caregivers for their chronically ill spouse (Court, Newton, & McNeal, 2005). Too often the spousal caregiver is overlooked due to physical and mental demands of the MS patient, but the spousal caregiver faces several unique challenges and demands (Holland, 2003). Due to the unpredictable nature of the illness, symptoms will

vary with time of day, duration of diagnosis, type of medication intervention, as well as the psychological and emotional aspects of MS, these factors will cause challenges to both the patient and family (Coleman, Rath, & Carey, 2001). In order to sustain a positive psychological state for the patient and family it is imperative to develop plans of action to deal with the illness during times of exacerbation, remain flexible, and mobilize resources (Patterson & Garwick, 1994). Caregiving partners often experience fear due to an uncertain future, social disruption, financial difficulties, and isolation (Rees, O'Boyle, & MacDonagh, 2001). Spouses are often expected to take on extra responsibilities when needed as well as provide support for the patient and somehow find support for themselves. These stressors often make keeping some normalcy difficult and can become frustrating for the caregiver as well as lead to ineffective self-care (Courts, Buchanan, & Werstlein, 2004). Thus, this illustrates the need to develop effective interventions for these caregivers.

Literature Pertaining to Spousal Caregivers

Many of the aforementioned studies have already shown that individuals especially caregivers can face various challenges, both in the relationship with family and socially, and these obstacles can be better met with higher levels of resilience. In fact, psychological resilience can help caregivers adjust and cope with stress, mood changes, and reducing anxiety by helping the caregiver to communicate, develop realistic perceptions, and promote adjustment to the disease (Buhse, 2008). Personal growth focuses on the individuals' ability and willingness to adapt and change with the situation,

thus, the evaluation of spouses would make a strong population to investigate resilience and personal growth.

It has been shown that spousal caregivers and MS patients have relationships altered due to the nature of the disease (Buhse, 2008). As a result, MS has a significant impact on the couples' social, psychological, and physical wellbeing (McKeown, Porter-Armstrong, & Baxter, 2004). Partners of people with MS not only have the same demands as other married couples, but in addition to those responsibilities they become caregivers to an individual with various disabilities, and because the life expectancy of an individual with MS is similar to that of someone without the disease, the caregiver's role could last the rest of their life (Buhse, 2008).

Resilience in this population would be vital in order for the caregiver to learn to adjust to the situation and the course of the illness as well as maintain their own wellbeing and continue to care for their family member. Caregiving comes with many burdens including economic, chronic illness, workplace demands, sustaining family life, and the unpredictable course of the illness (Buhse, 2008). Caregiver burden is defined as a type of stress or strain the caregiver experiences related to the challenges that they face as the result of the care recipient and their health status (Stucki & Mulvey, 2000). Caregiver burden has been described as both objective and subjective. The objective burden is observable and concrete showing a tangible cost to the caregiver, the subjective burden refers to the perceived cost that bothers the caregiver when performing tasks and the positive or negative feelings they experience (Jones, 1996). The changing personality of the individual with MS, changing personal plans or financial issues, and the high

demands placed on the caregivers' time contributes to the burden leaving the caregiver feeling loss because of changing roles within the relationship (O'Brien, Wineman, & Nelson 1995). Therefore, by evaluating this population, it has been shown that spousal caregivers could lend vital insight into the levels of resilience and how this ability can contribute to the improvement of quality of life and the quality of care given to the care recipient. However, research pertaining to this population is lacking in regard to how psychological resilience relates to personal growth and improved quality of life. Thus, continuing to examine this population can contribute to the current literature.

Summary

Psychological resilience can be an important concept in regard to dealing with life's stressors and to the improvement of interpersonal relationships (DiLillo, 2001). Although the literature clearly shows that psychological resilience is a vital concept in regard to the interactions that family members have with each other (Fisher, & McNulty, 2010), there is a gap in the research showing that psychological resilience can be applied to personal growth and improved quality of care. Thus, investigating Psychological Resilience in relation to the specific relationship of marriage dealing with the aftermath of being diagnosed with Multiple Sclerosis and personal growth seems justified. The review of literature also illustrates that growth is indeed possible after traumatic events (Bluck & Glueck, 2004), again the research is lacking with regard to how resilience and personal growth related. Therefore, an evaluation of whether psychological resilience is related to personal growth after a diagnosis of MS has been introduced into the spousal relationship seems warranted. Psychological Resilience and personal growth have been

shown to be vital components for success, but these components seem to have been overlooked with regard to the marital relationship. Thus, an investigation of this population will add to the current literature. The next chapter will outline how this evaluation could take place by presenting a brief review of the design and approach of the study, including setting, sample, procedures, and instrumentation.

Chapter 3: Research Method

The purpose of the nonexperimental quantitative study was to examine the correlation between psychological resilience and personal growth among spousal caregivers of MS patients. The independent variable of psychological resilience was assessed with the RS (Wagnild et al., 1993). The dependent variable is personal growth and was assessed with the PGIS (Robitschek, 1999). A multiple regression analysis was used to identify if a correlation exists between the two variables. The following three sublevels of psychological resilience will be included in the analysis for a post-hoc test if applicable: (a) expectable demands depending on the severity of illness, (b) varied challenges depending on severity of illness, and (c) family variables (Walsh, 2002), and the three sublevels of personal growth; (a) personal beliefs, (b) communication with others, and (c) personal organization (Walsh, 2002).

Participants were recruited to participate in a voluntarily study by notification via flyer posted within various MS Centers in Texas, and online through a posting with the National MS Society website. The invitation focused on married couples who were part of the center or who visited the National MS Society website, which will include a survey link via Survey Monkey. The survey link included an explanation of the study, eligibility requirements, demographic survey, informed consent form, and three different survey instruments.

This chapter discusses the research methods for the proposed study. A review of the research design, setting, sample, procedures, and instrumentation have been presented. Following the review of the study the data collection and hypotheses are

discussed. Finally a review of the statistical validity, reliability of instruments, data assumptions, sample size, and protection of participants' rights are also discussed to conclude this chapter.

Research Design and Approach

This is a quantitative study employing a nonexperimental design. The goal was to collect substantial statistical data by utilizing psychometrically sound instruments to evaluate the correlation between psychological resilience and personal growth for spousal caregiver of MS patients. The level of psychological resilience was based on the overall scores obtained by the RS developed by Wagnild et al. (1993). The total level of personal growth was based on total scores utilizing the PGIS developed by Robitschek (1999). A quantitative approach was chosen in order to analyze categorical data statically.

Due to the psychometric instruments that were able to provide categorical data, a quantitative approach was found to be the most appropriate rather than a qualitative or mixed methods approach. Based on the research design, concrete scores were examined to test the relationship between psychological resilience and personal growth, making a quantitative approach the appropriate method. A multiple regression analysis was used to evaluate the variables and their relationship. A quantitative approach was best when evaluating correlational research in order to determine a relationship between two or more variables utilizing statistical data (Locke, Silverman, & Waneen, 2004). Utilizing a nonexperimental research design was the most appropriate because I was able to evaluate attribute variables (gender, socioeconomic status, learning style, personal characteristics, etc.; Locke et al., 2004).

A nonexperimental design was utilized because the variables under evaluation lead to interpretations with regard to how they were related to each other without manipulation (Trochim, 2006). The major advantage of the correlational designs was that it allowed the testing of expected relationships between variable and allowed the researcher to make predictions (Stangor, 2012). The major disadvantage of a multiple regression design was that it cannot be utilized to draw inferences about the causal relationships between the variables (Stangor, 2012). The other disadvantage was the bias that may come from the use of self-reports by the participant. Although a multiple regression design limits the ability to infer causation, if the two variables are causally related then they must be correlated and can be utilized as a first step toward demonstrating causation (Trochim, 2006).

A multiple regression analysis was the statistical method utilized in this study. Multiple regression analysis was appropriate whenever a quantitative variable (dependent) is to be evaluated in a relationship to any other factors (independent), the relationships may be nonlinear, and aresearcher can examine the effects of a single variable or multiple variables with or without effects of other variables taken into account (Cohen, Cohen West, & Aiken, 2003). A multiple regression examines all the assumptions of a correlation (linearity, homoscedasticity, interval data, and range; Stevens, 2009). A multiple regression can be utilized to predict the variance in an independent variable and establish the proportion of the variance in a dependent variable at a significant level (Tabachnick, & Fidell, 2012).

Other methods were considered for this study, but they were ultimately rejected. The manipulations of the variable were not possible in this study thus a quantitative approach is the most appropriate. An experimental design would not have been appropriate for this study because the purpose is to evaluate the relationship between the two variables rather than based on interviews with the participants.

Population

The population for this study consisted of spousal caregivers to MS patients located in the United States. The participants were of various ages, ethnicities, religious beliefs, backgrounds, and they will have to be married to a MS patient. Although there are many different categories of caregivers (spouses, partners, family, friends, or children), this study will focus on spouses that are the primary caregivers to the MS patient. National Alliance for Caregiving (2009) stated that 29% of 65.7 million people in the U.S. populations are caregivers to someone who is ill disabled or aged; of this percentage 26% are married. In a national sample of caregivers, spouses account for about 62% of primary caregivers while nonrelative (partners, neighbors, or friends) only make up 17% (FCA, 2012). The study was open to all legally married spouses (including homosexual and heterosexual). Descriptive statistics were reported on these variables and participants will be recruited through various MS centers in Texas, two major hospital systems in San Antonio and nationally through the National MS Society and The MS Foundation website. Selecting from various MS centers potentially broadens the sample's demographics and increases the likelihood of obtaining a sufficient sample size.

Procedures

Participants were recruited to participate voluntarily in the study through a flyer posting with The Multiple Sclerosis Centers in Texas and two major hospital systems in San Antonio, and online with a posting on the National Multiple Sclerosis and The MS Foundation webpage. The invitation to participate was sent to all couples who are part of the center via e-mail including a survey link. Once the participant selects the survey link, they were provided with an explanation of the proposed study, participant eligibility requirements, included an electronically posted informed consent form (see Appendix A), two survey instruments (see Appendices B and C), a satisfaction with life scale (see Appendix D), a marital satisfaction scale (see Appendix E), and a demographic questionnaire (see Appendix F). The only incentive for participants was the personal satisfaction of completing the surveys that will increase the knowledge for future interventions. Personal identifying information was not gathered, and the data that are accessed by the research will be downloaded to a secure file. Everything was stored on an external drive that only I will have access to and it will be locked in a safe every day. I will safely and accurately erase or fully wipe the external drive once the 5 years have come to an end. Only the raw data that were gathered will be available to qualified professionals upon request.

Methodology

Sample Size

Determining the sample size was important because if the size was too large the researcher may waste time and if it was too small it can lead to inaccurate results (Israel,

2009). There are three criteria that were used to determine the appropriate sample size (a) level of precision, (b) the level of confidence or risk, and (c) the degree of variability in the attributes being measured (Miaoulis & Michener, 1976).

The level of precision is usually referred to as the sampling error in which the true value of the population is estimated (Israel, 2009). The precision level is often expressed in percentage points (e.g., ± 5; Israel, 2009). The confidence or risk level is based on ideas from the Central Limit Theorem, meaning that when a population is repeatedly sampled the average value of the attribute obtained by those samples is equal to the true population (Israel, 2009). If the confidence level is 95% then 95 out of 100 samples will have a true population value within the range of precision (Israel, 2009). The third criteria degree of variability refers to the distribution of attributes in the population. The larger the heterogeneous population sample size, the less or more homogeneous the population is results in a smaller sample size (Israel, 2009). An appropriate sample size will decrease the probability of committing errors and utilizing published tables with increase the generalizability of the results (Israel, 2009).

Convenience sampling was used because it provides an ease of gaining the statistical data needed concerning a specific population. Convenience sampling allowed me to gather data to study characteristics and to analyze trends to compensate for the lack in the data (Castillo, 2009). Although convenience sampling is the easiest for researchers, it does have some drawbacks such as it could produce some bias because it does not represent the entire population and it is not always the most accurate (Castillo, 2009).

The Central Limit Theorem (CLT) explains why many distributions tend to be close to the normal distribution, the key being that the random variable should be the sum or mean of the independent identically distributed with random variables (Weisstein, 2013). The CLT sampling distribution will look more like a normal distribution as the sample size increases even when the population itself is not normally distributed (Weisstein, 2013). To determine the sample size for this study, a power analysis was done. The statistical analysis was a hierarchical multiple linear regression with one predictor variable and eight covariates. G*Power was used to determine the appropriate minimum sample size to achieve empirical validity. For a multiple linear regression with nine predictors, using a medium effect size ($f^2 = .15$), an alpha of .05, and a generally accepted power of .80, the minimum sample size to achieve empirical validity was calculated to be 114 participants. For calculation and the plot graph please refer to Appendix I.

Instrumentation

The instrumentation that was utilized in the study was described with regards to how they would measure the variables specified in the research question and hypotheses. This section also demonstrated that the instruments being utilized were the most appropriate for the study. The information relevant to the instrumentation section included the appropriateness of the use of the instrument with consideration to the population and setting, information about the measurement characteristics of the instrument, and the administration including the scoring of the scales (Braunstein, 2007).

This section discusses each of the characteristics separately for each instrument along with their purpose and psychometric properties.

Measuring Psychological Resilience

In order to investigate psychological resilience, the RS has been applied as an appropriate instrument. According to Wagnild and Young (1993), the RS is the first tool developed to measure resilience directly, and it is currently utilized all over the world. This tool is mainly used by organizations to develop employee assistance and wellness programs (EAPs), and there have been requests by the mental health professionals in the military to translate into other settings (Wagnild et al., 1993). Considering that RS is utilized by various organizations and has been considered by the military, and shows high reliability (Wagnild et al., 1993), this measure was chosen as the most appropriate instrument for this study.

Once the level of resilience was determined with the RS, it was established that resilience could be beneficial with regard to improving mental and physical functioning. Wagnild et al. (1993) found that resilient individuals have the capacity to choose a vital and authentic life. The theory could be applied to measure psychological resilience, and determine if resilience is associated with the individuals' capacity to live a full and rewarding life by increasing their wellbeing and their potential to grow from stressful situations.

The Resilience Scale (RS)

Purpose

The purpose of the RS is to measure the individual's ability to cope with and respond effectively with various life stressors (Wagnild et al., 1993). In order to measure resilience, the RS is comprised of five characteristics: (a) meaningful life or purpose; (b) perseverance, (c) equanimity, (d) self-reliance, and (c) existential aloneness (Wagnild et al., 1993). For the purpose of this study, the total resilience score was used to evaluate a relationship between resilience and growth. In a study utilizing ambulatory lung cancer patients that were currently undergoing radiation therapy the RS were used to measure their QOL, it was found that there was a significant correlation between these two factors and the patients that had higher resilience scores had enhanced coping, and more potential to improve their life (Armando et al., 2010).

Scoring

This measurement can be administered and scored either through the use of the booklet and answer sheet, or via the Internet, which generates a narrative explanation of the results. For the purpose of this study, given that the participants had been contacted via the Internet, administration and scoring will be done through the internet by the publisher. This instrument is designed for individuals 13 years of age or older with at least a sixth grade reading level. The 25 item self-report questionnaire requires 4-5 minutes to complete, although there is no time restriction. The RS questions are all positively worded, and responses are based on a Likert scale ranging from 1(*agree*) to 7 (*disagree)*; Neill & Dias, 2001). The participants are asked to read each item and choose

the best answer that applies to their situation. A score on the low end for the 25 item RS is 130 or lower and a high score would be 160 or higher (Wagnild et al., 1993).

Psychometric Properties

The initial psychometric framework was done by the scale developers which included a survey of 782 middle-aged adult in the Pacific Northwest (Wagnild, 2009). The use of a standardization sample, the internal consistency of the RS was as follows: The full scale reliability is .97 and Cronbach's alpha coefficients .93. This assessment score reliabilities ranged between .72 and .94. It supports high construct validity and the internal consistency of the instrument (Wagnild et al., 1993). This instrument measured significant correlations between resilience and life satisfaction, morale, and depression (Wagnild, 2003). However, the construct validity of the measure was not well supported with regard to personal competence and acceptance of self and life, but this did not seem mutually exclusive because many of the items were double loaded on both factors (Wagnild et al., 1993).

Personal Growth Initiative Scale (PGIS)

Purpose

The purpose of the PGIS is to examine an individual's active and intentional involvement in changing and developing as a person (Robitschek, 1999). This 9-item instrument is presented in a Likert scale format. The PGIS was selected based on the applicable features of the scale that measure personal growth as a result of distress. In a current study utilizing the PGIS with college students the results indicated that three out of four factors were positively related to well-being and negatively to distress, also that

the same three factors were related to growth and explained the variance beyond accounting for more personality traits (Weigold, Porfeli, & Weigold, 2013).

Scoring

For the purpose of this study, the instructions asked the participants to respond to the 9-item measure on a 6-point scale (1 = *strongly disagree* to 6 = *strongly agree*). A specific example contained within the PGIS is, “If I want to change something in my life, I initiate the transition process,” (Robitschek, 1998, p. 1). The nine item self-report questionnaire requires 5 minutes to complete, although there is no time restriction. Scoring is done by adding up the responses to obtain a total PGI score. Scores can range from 0 to 45, with higher scores indicating higher levels of personal growth initiative.

Psychometric Properties

The PGIS has acceptable validity with internal consistency ranging from .78 to .90 and test-retest reliability estimates of .74 after 8 weeks (Robitschek, 1998). The test-retest reliability over 1-,2-,4-, and 6 week periods done with college students the researchers focused on scale development, theoretical derivation of the items, and assessing factor structure (Robitschek, Ashton, Spering, & Geiger, 2012). This study found strong internal consistency for the subscales (change, planfulness, resources, and intentional behavior), and it has acceptable temporal stability (Robitschek et al., 2012). There is evidence that this tool is strongly positively related to psychological well-being and negatively related to psychological distress (Robitschek, 1999). This tool is appropriate for measuring personal growth for caregivers of MS patients.

Satisfaction with Life Scale (SWLS)

Purpose

The purpose of the SWLS was to measure an individual's subjective wellbeing (life satisfaction) (Pavot & Diener, 2008). Life satisfaction was just one factor of the construct of wellbeing, which also includes positive and negative affective appraisal (Pavot et al., 2008). Life satisfaction was distinguished from the affective appraisals because it deals with more cognitive functioning rather than being emotionally driven (Corrigan, 2000). Life satisfaction is particular to the domain of life including work and family (Corrigan, 2000). This is a 5 item instrument scored on a 7-point Likert scale ranging from 1(strongly disagree) to 7 (strongly agree). The SWLS was selected based on its strong psychometric properties and the nature of the instrument. A study done utilizing 601 employees working in the Nigerian prisons found that the SWLS was a significant predictor of life satisfaction, specifically measuring the Big Five Factors that were found to predict life satisfaction, and showing that positivity as well as social support is important when determining life satisfaction (Onyishi, Okongwu, &Ugwu, 2004).

Scoring

The SWLS consists of 5-items and takes participants a few minutes to complete, although there is no time limit. The measure can be completed by interview, paper, or on the internet. A total score is calculated by adding the individual responses to the five items, the scores can range from 5 to 35, with higher scores indicating greater levels of life satisfaction (Corrigan, 2000).

Psychometric Properties

The SWLS has high reliability and is associated with other measures of subjective well-being (General Health Questionnaire, Symptom Checklist-90-R, and health attitudes) contributing to the evidence for construct validity (Pavot et al., 2008). Internal reliability ranges between .80 and .89, the test-retest reliability ranges from .83 (2 week interval) to .54 (4 year interval). The scores reportedly are not affected by sex, age, education level, health insurance status, or social desirability but are affected by marital status (Pavot et al., 2008). Reportedly approximately 85% of the participants found that they questions were clear, interesting, and not difficult to answer (Pavot et al., 2008). Thus, this instrument is appropriate for measuring life satisfaction with spousal caregivers of MS patients.

ENRICH Marital Satisfaction Scale (EMS)

Purpose

The purpose of the EMS is to measure the issues relevant to the marital adjustment and satisfaction (Fowers & Olson, 1993). According to Fowers et al. (1993) researchers need to consider several important factors when measuring the marital quality (adjustment, disharmony, happiness, and satisfaction). Marital conventionalization has been described as the tendency to evaluate the marital relationship in unrealistically positive terms mainly due to social desirability bias (Fowers et al., 1993). The EMS provides a global measure of satisfaction by examining ten concepts of marriage (communication, conflict resolution, roles, finances, leisure time, sexual relationship, parenting style, outside relationships (family & friends), and religion) (Fowers et al.,

1993). This is a 15 item questionnaire style instrument scored on a 5-point Likert scale ranging from 1(Strongly Disagree) to 5 (Strongly Agree). The EMS was selected based on it strong psychometric properties and the nature of the instrument. The EMS scale offers an alternative tool versus the longer measures such as the ENRICH and the Marital Satisfaction Inventory (Fowers et al., 1993). The EMS scale comprises two of the subscales of the ENRICH Inventory (Idealistic Distortion and Marital Satisfaction). The EMS scale was utilized in a study that utilized a national sample of 1,200 couples, it was found that there was a strong correlation with the Locke-Wallace Marital Adjustment Test and with the Family Satisfaction Scale indicating that the EMS scale was valid and at the same time not redundant (Fower et al., 1993).

Scoring

The EMS consists of 15-items and usually takes the participants SWLS consists of 5-items and usually takes participants 5-10 minutes to complete, although there is no time limit. The measure can be completed by interview, paper, or on the internet. Items 1, 4, 6, 9, and 13 constitute the Idealistic Distortion Scale. The remaining item consist of the Marital Satisfaction scale. Percentages are obtained from the raw scores of the assessment and the EMS score is equal to the individual's Marital Satisfaction Scale multiplied by the Idealistic Distortion scale (Fower et al., 1993).

Psychometric Properties

The EMS has high reliability and has been evaluated for internal consistency and test-retest reliability (Fowers et al., 1993). The Cronbach's alpha internal reliability is .86, the test-retest reliability is .86, and it was assessed utilizing 115 individuals over a 4

week period. The Marital Satisfaction scale items were strong ranging from .52 to .82 with a mean of .65 (men) and .68 (women) (Fowers & Olson, 1993). Thus, this instrument is appropriate for measuring marital satisfaction with spousal caregivers of MS patients.

Demographics Questionnaire

A brief demographics questionnaire that was designed by the researcher for this study was presented to the Internal Review Board (IRB) of Walden University prior to being utilized in the study. The demographic information consisted of (11) items: (a), participants' gender, (b) age, (c) ethnicity, (d) length of time married, (e) number of marriages, (f) children, (g) current health status, (h) duration of diagnosis in the relationship, (i) education level, and (j) any prior therapeutic interventions. All information remained confidential, and no identifying information (names, date of birth, social security numbers) was utilized on any questionnaires or on the demographics survey (see Appendix E).

Data Collection and Analysis

This research proposes to determine whether there was a significant positive correlation between psychological resilience and personal growth. One research question, null hypothesis, and alternative hypothesis were formed to examine the psychological resilience and personal growth along with any interactions. The section discusses the data collection, analysis and assumptions, restatement of the research question and hypothesis, the threats to validity, and reliability of the instruments that were utilized.

Restatement of Research Question and Hypothesis

This research proposed to show whether a positive correlation between psychological resilience and personal growth existed. One research question with its corresponding, - null hypothesis, - and alternative hypothesis evaluated the described factors and possible interactions. The three Research Questions are as follows:

1. Does psychological resilience, as measured by the Resistance Scale (RS), statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant had previous interventions, (f) whether the couple has children, (g) current health status, and (h) duration of marriage?

$H1_o$: Psychological resilience, as measured by the Resistance Scale (RS), does not statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

$H1_a$: Psychological resilience, as measured by the Resistance Scale (RS), does statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took

part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

2. Does higher psychological resilience, as measured by the Resistance Scale (RS), statistically predict increased satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant had previous intervention, (f) whether the couple has children, (g) current health status, and (h) duration of marriage?

$H2_o$: Psychological resilience, as measured by the Resistance Scale (RS), does not statistically predict satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

$H2_a$: Psychological resilience, as measured by the Resistance Scale (RS), does statistically predict satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

3. Does higher psychological resilience, as measured by the Resistance Scale (RS), in conjunction with increased satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), predict increased marital satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since partner diagnosis, (c) age of caregiver, (d) whether the participant had previous intervention, (e) whether the couple has children, (f) current health status, and (g) duration of marriage?

$H3_o$: Psychological resilience, as measured by the Resistance Scale (RS) in conjunction with satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), does not statistically predict marital satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since diagnosis, (c) age of caregiver, (d) whether the participant took part in any intervention previously, (e) whether the couple has children, (f) current health status of caregiver, and (g) how long the couple has been married.

$H3_a$: Psychological resilience, as measured by the Resistance Scale (RS) in conjunction with satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), does statistically predict marital satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS) as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since diagnosis, (c) age of caregiver, (d) whether the participant took part in any intervention

previously, (e) whether the couple has children, (f) current health status of caregiver, and (g) how long the couple has been married.

Data Collection

Four self-administered psychometric survey instruments (RS, PGIS, EMS & SWLS) and a self-administered demographic questionnaire were posted through an online web posting with the National MS Association, and through a flyer posting in two clinics in San Antonio, TX and Houston, TX. Utilizing Survey Monkey all four instruments were combined into the survey link for the participant to complete. After participants completed the survey instruments, the data was downloaded and analyzed. The site contained the study and participants were able to review and decide if they would like to participate. Potential participants were provided instructions, informed consent, the self-administered surveys, and the demographic questionnaire. The survey took approximately 5 to 15 minutes to complete.

The advantage of the self-administered surveys were the participant was able to complete them without the pressure of time limits. An advantage of doing this online is that a large number of potential participants were able to take part, making statistically significant results more likely, utilizing the standardized measurements also led to more precise results due to their high reliability and validity. There is also an additional advantage, the participant was able to take their time and was able to give more candid answers (Olle & Augustsson, 2005). One of the disadvantages of utilizing surveys over the internet was that the participants were not able to be observed by the researcher perhaps leading to loss of body language, and other contextual information. Another

problem was that this method may have produced higher rejection rates, inability to obtain clarification or details, and the researcher had less control over how the form was filled (Olle et al., 2005).

The participants were informed that they would never need to provide personal information, but they were also reminded of the potential shortcomings of the internets' confidentiality. The participants were given an informed consent form to review and they were to keep a copy for themselves. The informed consent noted that the completion of the study implies their consent. Each participant was assigned numbers to avoid any bias or breach of confidentiality. After the participant had completed the questionnaires the results were analyzed and interpreted.

Data Analysis Plan

A multiple regression was chosen as the appropriate analysis tool for this study to examine the dependent and independent variables and their correlation (Cohen, Cohen, West, & Aiken, 2003). Psychological resilience was constituted for the independent variable and personal growth was the dependent variable for research question (1). Psychological resilience was the independent variable and satisfaction of life was the dependent variable for research question (2). Lastly, psychological resilience and satisfaction of life were the independent variables while marital satisfaction was the dependent variable for research question (3).

The data accepted for the study came from the full completion of the study's assessments, questionnaire, consent form, and the participant meeting the criteria set by the study. Psychological resilience was calculated from the RS results, with possible

scores ranging from 130 to 160. Personal growth was calculated from the PGIS results, with possible scores ranging from 0 to 45. Satisfaction of life was calculated from the SWLS results, with possible scores ranging from 5 to 35. Marital satisfaction was calculated from the EMS results, with possible scores ranging from 5 to 25. A multiple regression was utilized when predicting or estimating the correlation between an independent and dependent variables. The multiple regression was used to see what may be causing the variation with the dependent variables in relation to the independent variable. The multiple regression analysis was utilized to examine the relationship between the independent and dependent variables while controlling for the background characteristics. All the data collected was analyzed by utilizing the Statistical Package for Social Sciences (SPSS) version 21.0. The software was used to run a multiple regression analysis to examine the relationship between the independent and dependent variables.

Data was entered into SPSS 21.0 for Windows for analysis. The sample population was described with descriptive statistics. Frequencies and percentages were presented for the categorical variables of interest, such as gender, whether the participant took part in any intervention previously and whether the couple has children. Means and standard deviations were presented for continuous variables, such as marital satisfaction, time since partner diagnosis, age of caregiver, and how long the couple had been married.

Threats to Statistical Conclusion and Validity

This study did not involve an experiment and treats to the validity were limited as much as possible. Threats to statistical conclusion validity occurred when the statistical power is low (a Type II error), violating assumptions of statistical tests (assumptions are

not met), fishing and error rate problems (making numerous comparisons, causing a Type I error), and reliability of measures are low (University of Indiana, 2013). These threats need to be avoided. Enhancing the statistical conclusion validity may occur if the (a) samples are homogeneous, (b) pre-test measures are collected on the same scales that are used for measuring effect, (c) matching before or after randomization that are correlated with a post-test, and (d) reliability of the dependent variable measures is increased (University of Indiana, 2013). In order to avoid these scenarios, a power of .90 was chosen.

Reliability of Instruments

All instruments were assessed by an examination of previous studies utilizing these tools to determine internal consistency and reliability. After the examination of such studies, it was determined that the RS is considered a reliable tool to assess psychological resilience. Wagnild and Young (1993) stated that the internal consistency consisted of a full scale reliability of the RS is .97 with assessment score reliabilities to range from .72 to .94. Thus, it can be argued that the RS is a well-constructed tool to measure psychological resilience.

An evaluation of the PGIS was conducted, and it had been determined that it is a reliable tool to assess personal growth. The authors found that this tool was strongly related to psychological wellbeing and negatively related to psychological distress (Robitschek, 1998). Robitschek (1998) stated that the internal consistency ranged from .78 to .90 and the test-retest reliability after 8 weeks were .74. Thus, for the purpose of this study this tool is reliable and appropriate. Cronbach's alpha tests of internal

consistency were conducted on the Resistance Scale (RS) and the Personal Growth Initiative Scale (PGIS). The Cronbach's alpha coefficient provided the mean correlation between each pair of items and the number of items in a scale (Brace, Kemp & Snelgar, 2006). Coefficients were evaluated using the guidelines suggested by George and Mallery (2010) where > .7 is acceptable.

After reviewing the SWLS being utilized in other studies, it had been determined that it is a reliable tool to assess global life satisfaction. The researchers found that this tool was strongly related to various components of subjective well-being and was negatively related to loneliness; this tool was found to correlate highly with other subjective well-being measures, however, the SWLS focuses specifically on personality characteristics (Pavot & Diener, 2008). Pavot et al., (2008) found that SWLS has a high internal consistency as well as high temporal reliability. The researchers noted that the SWLS was suited for use with different age groups and thus for the purpose of this study this tool is reliable and appropriate.

Earlier studies have found that the EMS scale had correlations with longer more intensive marital inventories. Fowers and Olson (1993) found that the EMS scale was related to a variety of demographic variables and had strong positive correlations with education, income, and occupational status. The results of earlier studies indicated that the EMS scale is a reliable and valid scale for measuring marital satisfaction and is strongly correlated with other marital satisfaction scales (Fowers et al., 1993).

Data Assumptions

To assess research question one, and to determine if Psychological resilience, as measured by the Resistance Scale (RS), statistically predicted personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married, a hierarchical multiple linear regression will be conducted. The hierarchical multiple linear regression was the appropriate analysis when the goal of research was to determine the extent of a relationship of a dichotomous or continuous predictor variable on a continuous criterion variable, after controlling for a set of confounding variables. The dependent variable in the analysis was personal growth. Personal growth was measured with the PGIS and treated as continuous data. The independent variable in the analysis was psychological resilience. Psychological resilience was measured with the RS and treated as continuous data. The covariates in the analysis were gender, marital satisfaction, time since partner diagnosis, age of caregiver, whether the participant took part in any intervention previously, whether the couple had children, current health status of caregiver, and how long the couple had been married. To control for these variables, the covariates were entered into the first block of the regression equation. This accounted for any variance these variables shared with the personal growth. Psychological resilience was entered into the second block (Tabachnick & Fidell, 2012). The *F* test assessed if the model collectively predicted personal growth.

R-squared was reported to demonstrate the amount of variance in personal growth that can be attributed to psychological resilience. The *t*-test was used to examine the significance of psychological resilience and beta coefficients determined the extent of prediction of psychological resilience. For significant predictors, every one unit increase in psychological resilience, personal growth increased or decreased by the number of unstandardized beta coefficients. An alpha of .05 was used for analysis.

The assumptions of multiple regressions included linearity, homoscedasticity, and absence of multi-collinearity and were assessed prior to analysis. Linearity assumes a straight line relationship between resilience and personal growth and were assessed with a scatterplot. Homoscedasticity assumes that personal growth scores are normally distributed about the regression line and were assessed with a residuals scatterplot. The absence of multi-collinearity assumes that predictor variables and covariates are not too related and were assessed using Variance Inflation Factors (VIF). VIF values over 10 suggested the presence of multi-collinearity (Stevens, 2009).

Many researchers argue that linearity is the most important assumption because it related directly to the bias of the results of the whole analysis (Keith, 2006). If linearity is violated the estimates of the regression analysis, (regression coefficients, standard errors, tests of statistical significance) may be biased (Keith, 2006). If the relationship between the variables are not linear then there is a higher chance to under or overestimate the results increasing the risk of developing a Type I or Type II error (Osborne & Waters, 2002). Thus, to prevent a non-linearity the researcher should use previous theories to

inform the current analysis to assist in choosing the appropriate variables (Osborne et al., 2002).

The second assumption was independence of errors referring that errors are independent of one another, meaning that the participants is responding independently (Stevens, 2009). When the independence of errors is violated the researcher increases the risk of committing a Type I error (Keith, 2006). This can occur when the data is not drawn independently from the populations thus resulting in a violation (Stevens, 2009), causing an underestimation of standard errors, and label variables as statistically significant when they are not (Keith, 2006). One way to prevent this violation is through the use of boxplots that show the median, high and low values, and possible outliers (Keith, 2006).

The third assumption was homoscedasticity which refers to the equal variance of errors across every level of the independent variables (Osborne et al., 2002). Meaning that researchers assume that the errors are spread out between the variables consistently, this is evident when the variance is around the regression line for all values (Keith, 2006). When heteroscedasticity is marked it could lead to a distortion with the findings, and a higher probability of Type I error, untrustworthy *F*-test results, and erroneous conclusions (Aguinis, Petersen, & Pierce, 1999).

Homogeneity will be established by ensuring that both groups have the same variance and any outliers will be excluded. Scatterplots of residuals with independent variables is one way to check homoscedasticity (Osborne et al., 2002). Homogeneity will

be established by ensuring that both groups have the same variance and any outliers will be excluded.

The next assumption was normality referring to a normal distribution (Osborne & Waters, 2002). This means that the errors are normally distributed and that plotting the values of the residuals will approximate a normal curve (Keith, 2006). To prevent scores that are skewed visual inspection of data plots, skew, kurtosis, and P-plots can be done by utilizing statistical software as a tool (Osborne et al., 2002). Thus, a normal distribution will be assumed due to an adequate sample size.

Finally, the last assumption was collinearity referring to the assumption that the independent variable is uncorrelated (Keith, 2006). The more the variables correlate, then the less likely the researcher is able to separate the effects of the variables (Hoyt, Leierer, & Millington, 2006). Multi-collinearity could result with misleading results, inflated standard errors, reduced power of regression and the need to seek a larger sample size (Jaccard, Guilamo-Ramos, Johansson, & Bouris, 2006). As a result, the researcher could underestimate the relevance of the predictor, and hypothesis testing the interaction effect could be hampered (Jaccard et al., 2006).

Protection of Participants' Rights

Ethical considerations were taken when performing this study. The researcher did everything necessary to uphold all ethical standards including, the participants rights to (privacy, choice to participate, change their mind about participating, knowing what they would be asked to do, and what would occur during the research process). The steps that

were taken to ensure the participants ethical protection are described in the following sections.

Ethical Issues

Research Problem

This study was exploratory research that was aimed to contribute to the current research knowledge in the field of psychoneuroimmunology. Caregivers have several challenges (work, family, finances, etc.) and are more likely to neglect their own well-being. Caregivers often become stressed and frustrated, which could impede their ability to provide quality care for their family member. This research focused on legally married spousal caregivers of MS patients in an effort to understand their daily stressors, their present QOL, and their overall functioning. This research is relevant for the population of spouses providing support for MS patients, which examined how an individual experiences and initiates personal growth. The goal of this study was to help close the gap in the literature with regard to how psychological resilience relates to personal growth and hopefully provided an insight and vital information for mental health professionals when developing interventions for caregivers.

This study presented some minimal risks when filling out surveys and questionnaires including some stress as they thought about their daily responsibilities and analyzed how they cared for themselves and their family member. Approval was sought from the Walden University IRB prior to conducting this research. The data collected was kept confidential and kept on a separate flash drive which was password protected.

Everything was stored on an external drive and the drive will be fully wiped once the five years have come to an end.

Research Question and Purpose

An informed consent form was presented with approval from the Walden University IRB prior to the data collection process. The informed consent wad intended to provide the participant with the relevant information necessary to aid in the decision of whether or not to participate. A discussion of the research was presented with the informed consent and included (a) purpose of the research, (b) description of what the participant will be asked to do (complete questionnaires), (c) description of any risks involved, (d) description of benefits to the participant and society, (d) the degree that the information will be kept confidential, (e) contact information if they have questions, and (f) a statement indicating that the participant may change their mind about their participation at any time. The participant was instructed to fill out the informed consent completely and not agree to the research until they had all their questions answered to their satisfaction. The participant was also able to print a copy of the informed consent in case they had any questions later.

Data Analysis and Interpretation

The purpose of the data analysis and interpretation phase was to examine the data collected and transform it into credible evidence in order to contribute to the development of interventions (International Center for Alcohol Policies, 2013). The process of analyzing the data (organizing, describing, and interpreting) helped to measure the degree of change, and allowed an assessment to be made about the consistency of the data

(ICAP, 2013). There are five criteria that helped with the evaluation and organizing of the data (a) relevance, (b) effectiveness, (c) efficiency, (d) results/impact, and (e) sustainability (ICAP, 2013).

The data collected in this study was analyzed and reviewed several times to ensure the accuracy with regard to participation, the completeness of each questionnaire, scoring, and interpretation. The researcher was as honest and accurate as possible to report the results in a formal interpretation of all research findings.

Summary

This chapter presented the research methods that were utilized for the proposed nonexperimental quantitative study. This exploratory research study examined the relationship between psychological resilience and personal growth with spousal caregivers of MS patients. The research design, setting, sample, and population were described. The instrumentation that was utilized to collect the data were three self-report surveys, the RS, PGIS, and the SLS which were described thoroughly. The validity and reliability of the instruments were discussed as well as their relevance to the study. Finally, the ethical issues were discussed ensuring that the research was ethically sound and that the protection of the patient’s rights and privacy were of high importance to the researcher.

Chapter 4: Results

The purpose of this nonexperimental study was to examine the correlation between psychological resilience and personal growth in spousal caregivers of MS patients. The chapter describes the participants sampled, an overview of the pilot study, design, procedures, and a summary of the analysis results. Specifically, this study was conducted to answer the following research questions:

1. Does psychological resilience, as measured by the Resistance Scale (RS), statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant had previous interventions, (f) whether the couple has children, (g) current health status, and (h) duration of marriage?

$H1_o$: Psychological resilience, as measured by the Resistance Scale (RS), does not statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

$H1_a$: Psychological resilience, as measured by the Resistance Scale (RS), does statistically predict personal growth, as measured by the Personal Growth Initiative Scale (PGIS), in caregivers of MS patients, after controlling for (a) gender, (b) marital

satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

2. Does higher psychological resilience, as measured by the Resistance Scale (RS), statistically predict increased satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant had previous intervention, (f) whether the couple has children, (g) current health status, and (h) duration of marriage?

$H2_o$: Psychological resilience, as measured by the Resistance Scale (RS), does not statistically predict satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

$H2_a$: Psychological resilience, as measured by the Resistance Scale (RS), does statistically predict satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), in caregivers of MS patients, after controlling for (a) gender, (b) marital satisfaction, (c) time since diagnosis, (d) age of caregiver, (e) whether the participant took part in any intervention previously, (f) whether the couple has children, (g) current health status of caregiver, and (h) how long the couple has been married.

3. Does higher psychological resilience, as measured by the Resistance Scale (RS), in conjunction with increased satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), predict increased marital satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since partner diagnosis, (c) age of caregiver, (d) whether the participant had previous intervention, (e) whether the couple has children, (f) current health status, and (g) duration of marriage?

$H3_o$: Psychological resilience, as measured by the Resistance Scale (RS) in conjunction with satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), does not statistically predict marital satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since diagnosis, (c) age of caregiver, (d) whether the participant took part in any intervention previously, (e) whether the couple has children, (f) current health status of caregiver, and (g) how long the couple has been married.

$H3_a$: Psychological resilience, as measured by the Resistance Scale (RS) in conjunction with satisfaction of life, as measured by the Satisfaction with Life Scale (SWLS), does statistically predict marital satisfaction, as measured by the ENRICH Marital Satisfaction Scale (EMS) as measured by the ENRICH Marital Satisfaction Scale (EMS), in caregivers of MS patients, after controlling for (a) gender, (b) time since diagnosis, (c) age of caregiver, (d) whether the participant took part in any intervention

previously, (e) whether the couple has children, (f) current health status of caregiver, and (g) how long the couple has been married.

Demographic Characteristics of the Sample

Participants completed surveys during a 4 month time frame. The participants were able given a link to access the surveys online through Survey Monkey at their own leisure. A total of 124 participants took part in the study. However, nine participants were removed for not completing the survey. Data analysis was conducted on the 115 remaining participants. Many of the participants were between 55 and 64 years old (40, 35%) and the majority of the participants were male (75, 65%). White (71, 62%) and Hispanic (40, 35%) were the most common ethnicities chosen. Many of the participants had their bachelor's degree (46, 40%). Most of the participants have been married only once (90, 78%). Most of the participants' spouses have been diagnosed with MS for 11-15 years (29, 25%) or 16-20 years (28, 24%). Approximately half of the participants have two children (57, 50%). The most-common health issue for the participants is obesity (40, 35%). The majority of the participants are employed (92, 80%). Most of the participants have not had an intervention (108, 94%). Table 1 presents frequencies and percentages for participant demographics.

Table 1

Frequencies and Percentages for Participant Demographics

Demographic	*n*	%
Age		
18 – 24	2	2
25 – 34	8	7
35 – 44	19	17
45 – 54	33	29
55 – 64	40	35
65 – 74	13	11
Gender		
Female	40	35
Male	75	65
Ethnicity*		
American Indian / Alaskan Native	2	2
Black	4	4
Hispanic	40	35
White	71	62
Education		
High school or GED	9	8
Vocational	14	12
Some college	32	28
Bachelor's degree	46	40
Master's degree	8	7
Doctoral degree	2	2
Professional degree	1	1
Other	3	3
Times married		
1	90	78
2	21	18
3	3	3
4	1	1
Length of married		
1-5 years	11	10
6-10 years	15	13
11-15 years	8	7
16-20 years	10	9
21-25 years	20	17
26-30 years	17	15
31-35 years	8	7

(table continues)

36-40 years	24	21
41 or more	2	2
Spouse's length of time with MS		
1-5 years	23	20
6-10 years	10	9
11-15 years	29	25
16-20 years	28	24
21-25 years	11	10
26-30 years	11	10
31-35 years	3	3
Children		
0	14	12
1	26	23
2	57	50
3	12	10
4	4	4
5 or more	2	2
Health*		
Diabetes	14	12
Heart disease	23	20
Asthma	16	14
Major Injury	15	13
Mental	2	2
Obesity	40	35
Smoker	19	17
Alcoholic	0	0
Cancer	3	3
Other	38	33
Employment		
Employed	92	80
Unemployed	2	2
Homemaker	4	4
Retired	16	14
Other	1	1
Intervention		
No	108	94
Yes	7	6

Note. * participants could select more than one response.

Five scales were created to address the research questions. Cronbach alpha reliability testing was conducted on these five scales. Four of the scales (personal growth initiative scale, resilience scale, satisfaction with life, and marital satisfaction scale) had excellent ($\alpha > .90$) reliability. Idealistic distortion had good ($\alpha > .80$) reliability (George & Mallery, 2010). Table 2 presents the Cronbach alpha reliability and descriptive statistics for each of the scales.

Table 2

Cronbach Alpha and Descriptive Statistics for Scales

Scale	Number of items	α	*M*	*SD*
Personal growth initiative scale	9	.96	41.91	7.65
Resilience scale	25	.97	136.33	21.78
Satisfaction with life	5	.90	24.57	5.81
Marital satisfaction scale	10	.91	33.83	7.64
Idealistic distortion	5	.85	16.80	3.91

Data Screening

Prior to analysis, data were screened to ensure complete and accurate completion of assessments. Originally 124 respondents began the study; however, nine of those respondents decided not to complete all the questions and were thus eliminated. The RS questionnaire required a minimum of 97% completion to be considered valid (Wagnild et al., 1993); only participants who completed more that 97% of the RS questions, and all of the PGIS, SWLS, EMS and demographics questionnaire were utilized for data analysis. The elimination of nine participants left the final number of the sample reduced to N = 115, which is over the number required according to the power estimate to detect a medium size effect. All remaining participants' were considered valid.

Data-Analysis Results

Three separate analyses were conducted. As a preliminary step, an analysis examined the relationship between the total scores of the RS and the PGIS, the SWLS, and the EMS along with the background variables to see if the covariates contributed information about the relationship between these variables. The analysis evaluated major findings to examine the relationship between the predictor variable, RS total score and the outcome variable, PGIS, SWLS, and EMS total score with the use of a multiple regression while controlling for the following background variables: (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant had previous interventions, (f) whether the couple has children, (g) current health status, (h) duration of marriage, and (i) life satisfaction.

Data analysis was conducted using SPSS 21.0 for Windows. The psychometric characteristics of the RS were evaluated in previous research (Wagnild et al., 1993) and the PGIS, SWLS, & EMS were found to be psychometrically sound tools with a high Cronbach's alpha reliability coefficient in this study. Since the populations were composed of caregivers it was assumed that the sample was capable of understanding and completing the surveys. It was also assumed that the participants answered questions honestly, candidly, and to the best of the capability and personal assessment. Lastly, overall levels of RS, personal growth, life satisfaction and marital satisfaction could be attributable to many different variables; these background variable were included and controlled for in the analysis to meet this assumption.

Study Results

Research Question 1

To examine Research Question 1, a hierarchical multiple linear regression was conducted to assess if resilience predicted personal growth after controlling for gender, marital satisfaction, spouse's length of time with MS, age, intervention, number of children, and the number of health complications. Prior to analysis, the assumption of normality was assessed by examining a P-P scatterplot of the residuals. The scatterplot showed no strong deviation from normality, and the assumption was met (see Figure 1). The assumption of homoscedasticity was assessed by viewing a scatterplot between the residuals and the predicted values. The plot showed no indication of a patter, and the assumption was met (see Figure 2).

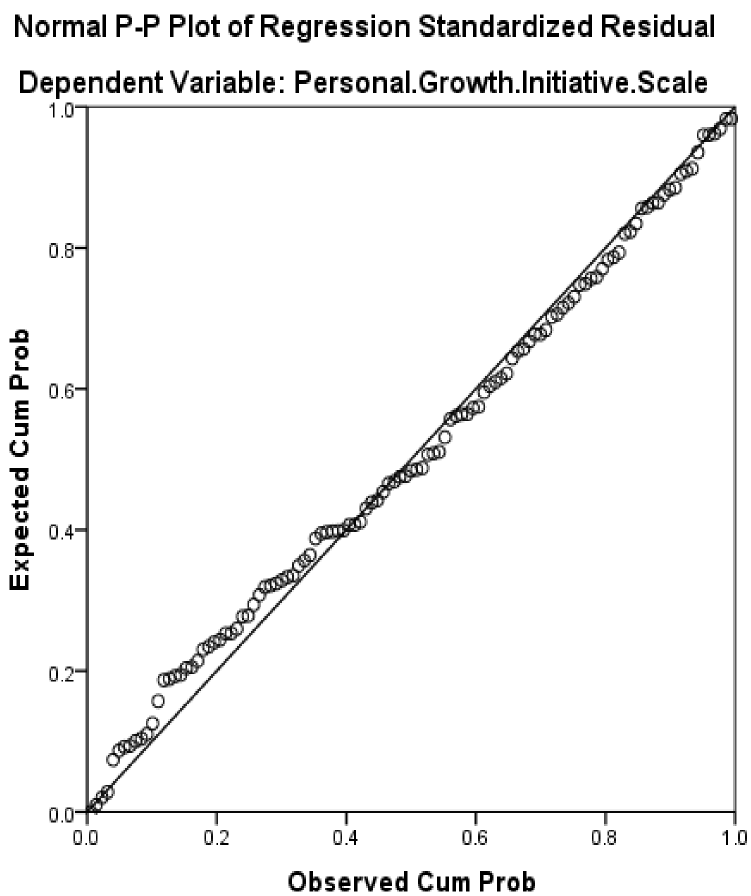


Figure 1. Normal P-P scatterplot for regression predicting personal growth initiative.

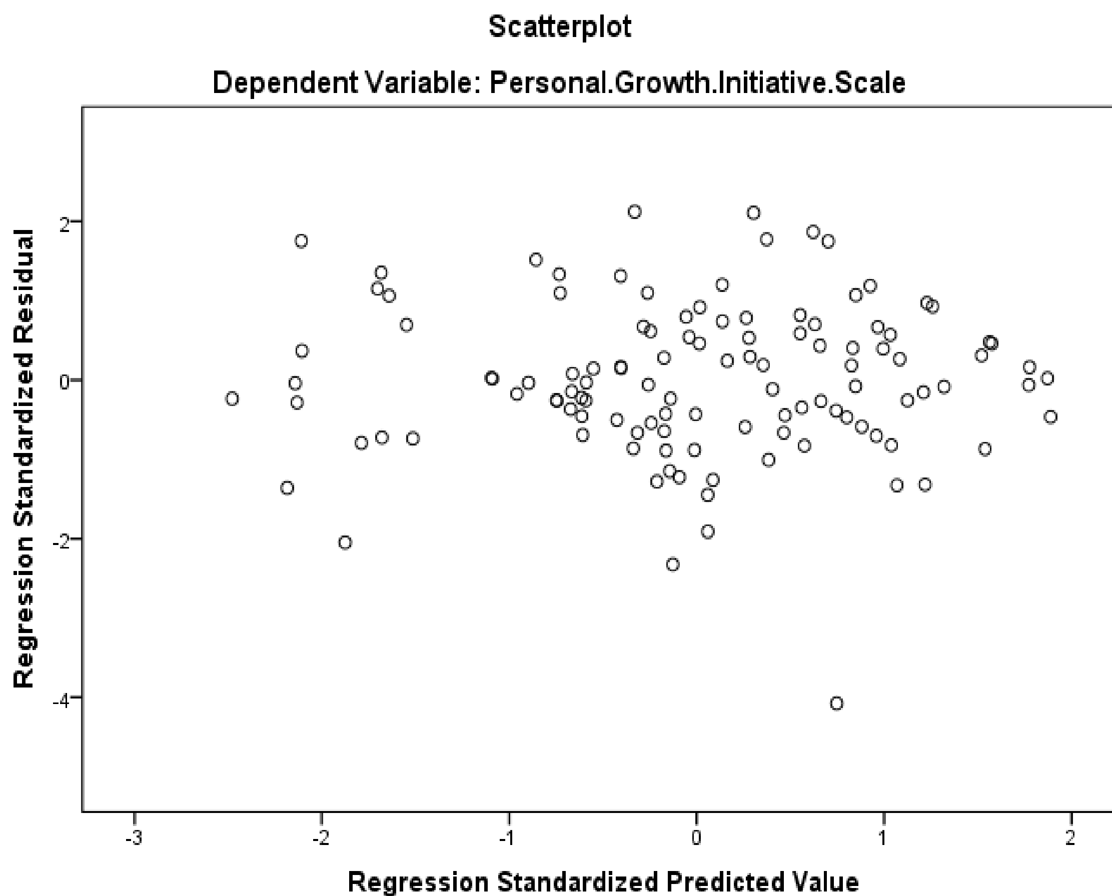


Figure 2. Homoscedasticity scatterplot for regression predicting personal growth initiative.

Results of the regression showed that the covariates accounted for (R^2) 37% of the variance in personal growth initiative ($p < .001$), with resilience accounted for an additional 33% of the variance. The full regression model was significant, $F(9, 105) = 27.65$, $p < .001$, $R^2 = .70$. Further analysis showed that resilience significantly predicted personal growth initiative, $B = 0.27$, $p = < .001$. This suggests that for every one unit increase in resilience, personal growth increased by 0.27 units as well. The number of health complications ($p = .025$) was the only other variable that was significant in the model. Because significance was found, the null hypothesis can be rejected in favor of

the alternative hypothesis. Table 3 presents the results of the hierarchical multiple linear regression.

Table 3

Multiple Linear Regression Coefficients Predicting Personal Growth Initiative

Source	*B*	*SE*	β	*t*	*p*
Gender	0.40	0.90	.03	0.44	.660
Marital satisfaction	0.08	0.06	.08	1.30	.195
Length of spouse's MS	-0.46	0.34	-.10	-1.38	.172
Age	1.14	0.58	.17	1.96	.053
Intervention	-0.02	1.81	.00	-0.01	.991
Children	-0.11	0.44	-.01	-0.24	.814
Health complications	1.41	0.62	.14	2.28	.025
Length of marriage	-0.10	0.30	-.03	-0.34	.732
Resilience	0.27	0.03	.77	10.89	.001

Research Question 2

To examine Research Question 2, a hierarchical multiple linear regression was conducted to assess if resilience predicted satisfaction with life after controlling for gender, marital satisfaction, spouse's length of time with MS, age, intervention, number of children, and the number of health complications. Prior to analysis, the assumption of normality was assessed by examining a P-P scatterplot of the residuals. The scatterplot showed no strong deviation from normality, and the assumption was met (see Figure 3). The assumption of homoscedasticity was assessed by viewing a scatterplot between the residuals and the predicted values. The plot showed no indication of a patter, and the assumption was met (see Figure 4).

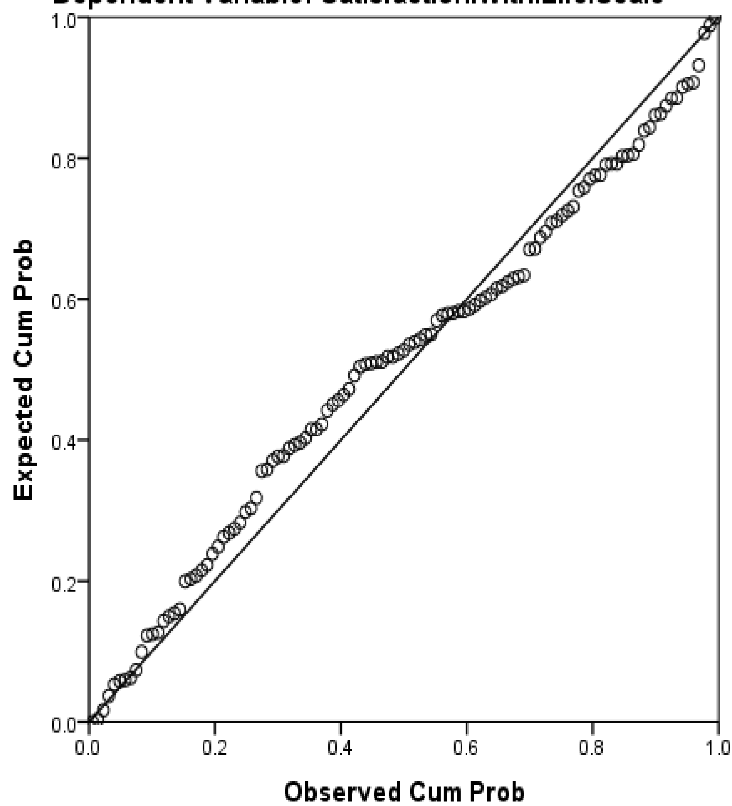


Figure 3. Normal P-P scatterplot for regression predicting satisfaction with life.

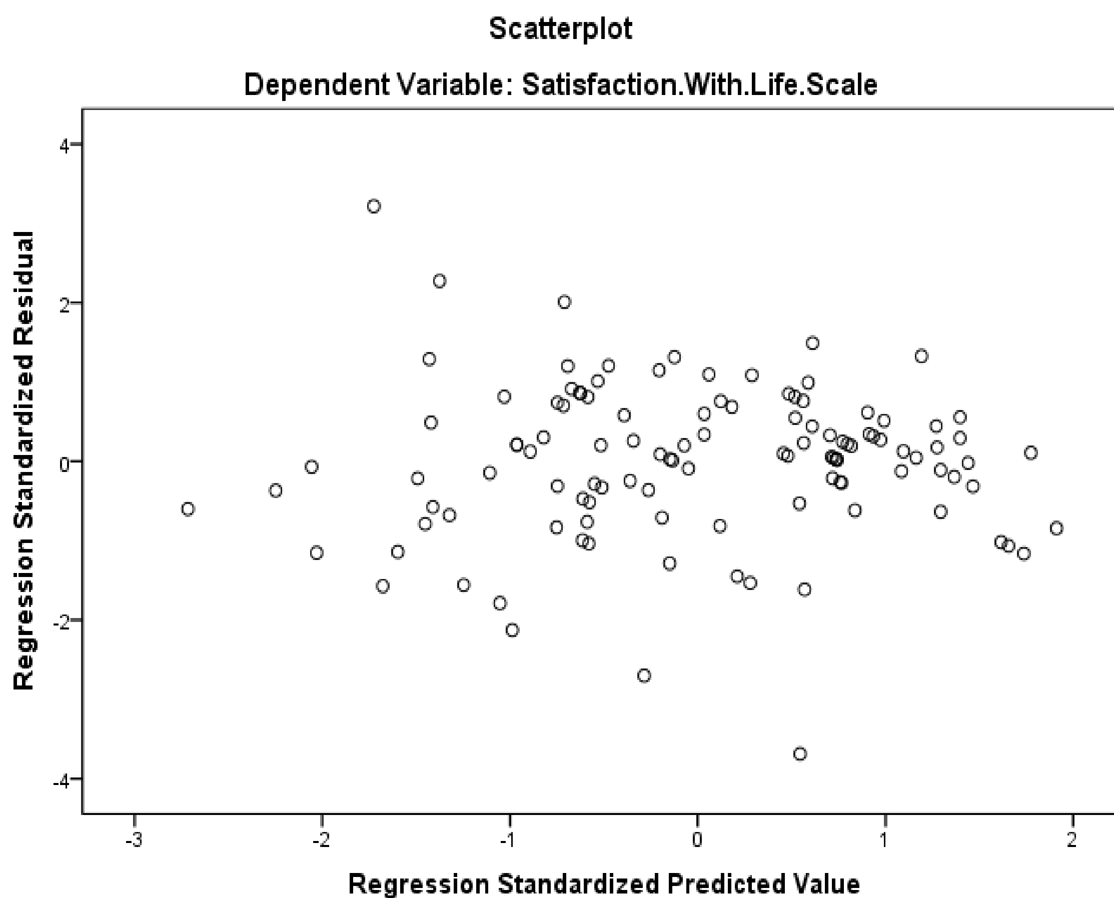


Figure 4. Homoscedasticity scatterplot for regression predicting satisfaction with life

Results of the regression showed that the covariates accounted for (R^2) 50% of the variance in satisfaction with life ($p < .001$), with resilience accounted for an additional 11% of the variance. The full regression model was significant, $F(9, 105) = 17.90$, $p < .001$, $R^2 = .61$. Further analysis showed that resilience significantly predicted satisfaction with life, $B = 0.12$, $p = < .001$. This suggests that for every one unit increase in resilience, satisfaction with life by 0.12 units as well. Marital satisfaction ($p < .001$) was the only other variable that was significant in the model. Because significance was found, the null

hypothesis can be rejected in favor of the alternative hypothesis. Table 4 presents the results of the hierarchical multiple linear regression.

Table 4

Multiple Linear Regression Coefficients Predicting Satisfaction With Life

Source	*B*	*SE*	β	*t*	*p*
Gender	-0.49	0.79	-.04	-0.63	.532
Marital satisfaction	0.35	0.06	.46	6.17	.001
Length of spouse's MS	0.15	0.29	.04	0.50	.618
Age	-0.29	0.51	-.06	-0.56	.574
Intervention	-0.66	1.58	-.03	-0.42	.677
Children	0.66	0.39	.12	1.69	.094
Health complications	-0.20	0.54	-.03	-0.37	.712
Length of marriage	0.05	0.26	.02	0.20	.840
Resilience	0.12	0.02	.44	5.36	.001

Research Question 3

To examine Research Question 3, a hierarchical multiple linear regression was conducted to assess if resilience and satisfaction with life predicted marital after controlling for gender, spouse's length of time with MS, age, intervention, number of children, and the number of health complications. Prior to analysis, the assumption of normality was assessed by examining a P-P scatterplot of the residuals. The scatterplot showed no strong deviation from normality, and the assumption was met (see Figure 5). The assumption of homoscedasticity was assessed by viewing a scatterplot between the residuals and the predicted values. The plot showed no indication of a patter, and the assumption was met (see Figure 6).

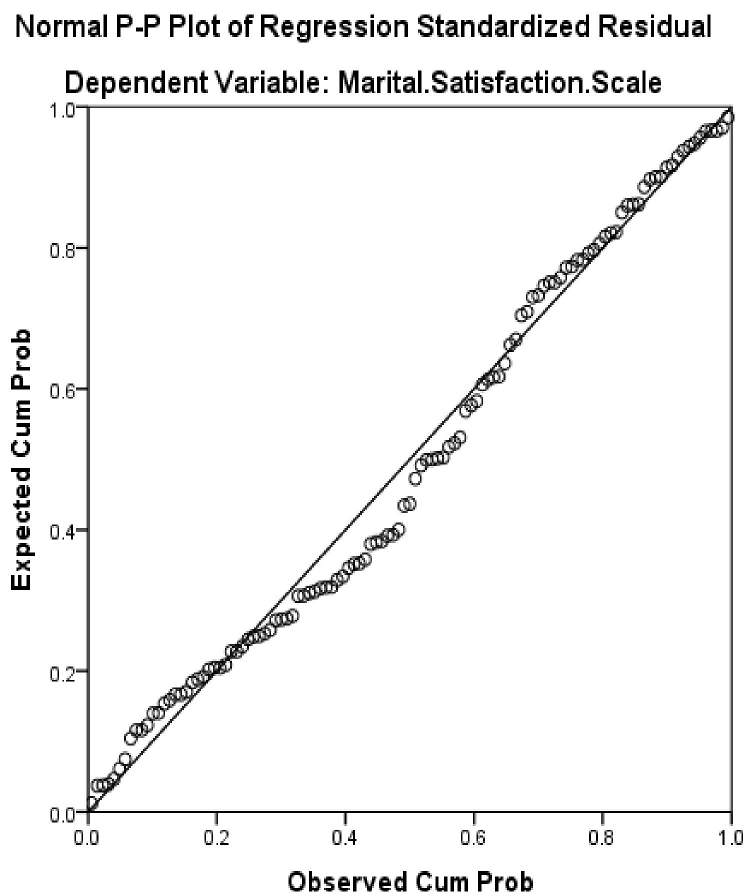


Figure 5. Normal P-P scatterplot for regression predicting marital satisfaction

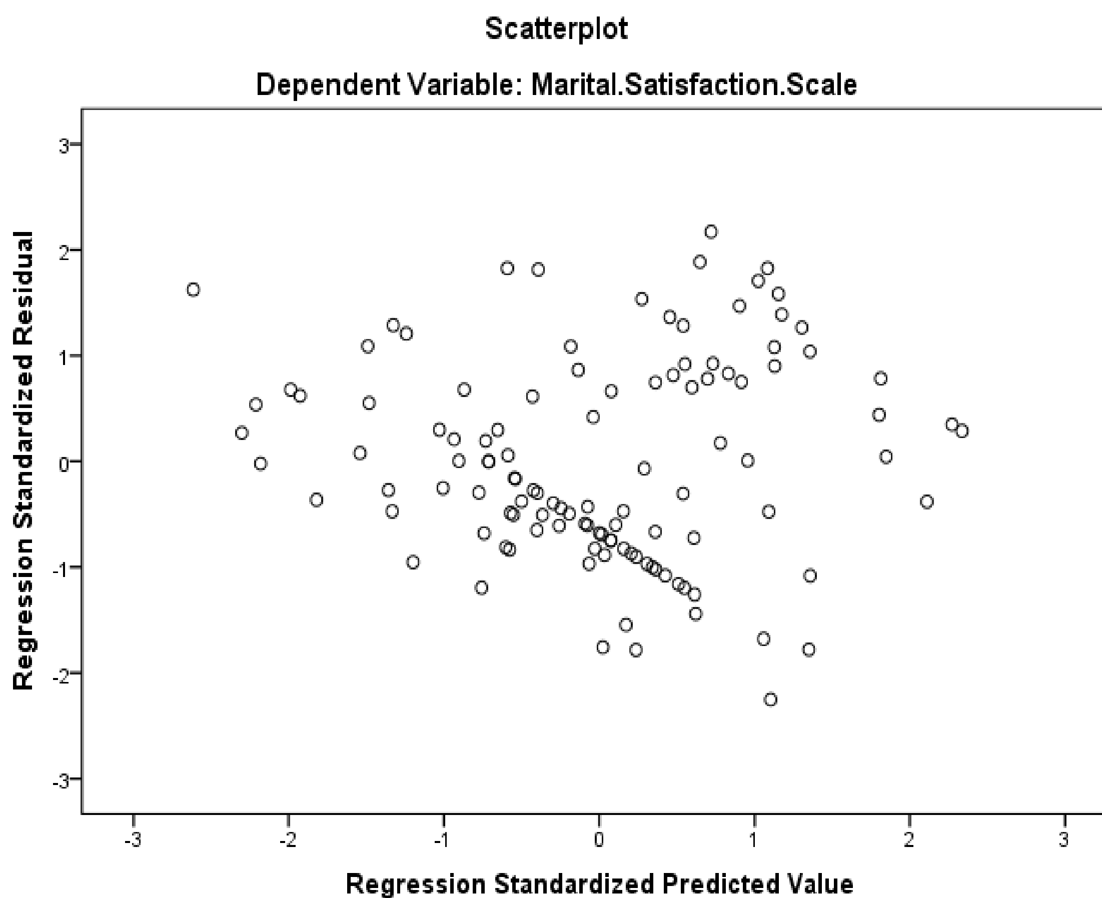


Figure 6. Homoscedasticity scatterplot for regression predicting marital satisfaction

Results of the regression showed that the covariates accounted for (R^2) 22% of the variance in marital satisfaction ($p < .001$), with resilience and satisfaction with life accounting for an additional 27% of the variance. The full regression model was significant, $F(9, 105) = 11.37$, $p < .001$, $R^2 = .49$. Further analysis showed that resilience did not significantly predict marital satisfaction, $B = 0.01$, $p = .837$. However, satisfaction with life predicted marital satisfaction, $B = 0.77$, $p < .001$. This suggests that for every one unit increase in satisfaction with life, marital satisfaction increased by 0.77 units as well. Age ($p = .016$), intervention ($p = .009$) and length of marriage ($p = .019$) were the

only other variables that was significant in the model. Because significance was found, the null hypothesis can be rejected in favor of the alternative hypothesis. Table 5 presents the results of the hierarchical multiple linear regression.

Table 5

Multiple Linear Regression Coefficients Predicting Marital Satisfaction

Source	*B*	*SE*	β	*t*	*p*
Gender	2.12	1.15	.13	1.84	.069
Length of spouse's MS	-0.37	0.44	-.08	-0.85	.398
Age	-1.81	0.74	-.28	-2.45	.016
Intervention	6.05	2.29	.19	2.65	.009
Children	-0.66	0.58	-.09	-1.13	.261
Health complications	-0.38	0.81	-.04	-0.47	.640
Length of marriage	0.90	0.38	.28	2.38	.019
Resilience	0.01	0.04	.02	0.21	.837
Satisfaction with life	0.77	0.12	.58	6.17	.001

Summary

Based on the findings of the regression analysis, the alternative hypothesis regarding the relationship between RS and the PGIS in caregivers of MS spouses after controlling for (a) gender, (b) marital satisfaction, (c) time since partner diagnosis, (d) age of caregiver, (e) whether the participant had previous interventions, (f) whether the couple has children, (g) current health status, and (h) duration of marriage was retained. The overall results support the alternative hypothesis based on the findings of the multiple-regression analysis which found a significant relationship between resilience and personal growth of 115 caregivers of MS spouses. The variable of health complications also showed a significant relationship in the model with regard to resilience and personal growth. The regression also showed that the covariates accounted

for 50% of the variance with regard to satisfaction with life. Therefore, further analysis showed that there is a significant relationship between resilience and satisfaction with life with marital satisfaction being the only other variable that was significant in the model. Again since there was a significant relationship found between resilience and satisfaction with life the alternative hypothesis was retained. Finally, the regression showed that the covariates accounted for 22% of the variance in marital satisfaction. Resilience in this case did not display a significant relationship when predicting marital satisfaction. Although, there was a significant relationship found between life satisfaction and marital satisfaction with the variables of age, intervention, and duration of marriage showing significant in the model. Although the results showed an insignificant relationship between resilience and marital satisfaction; life satisfaction and marital satisfaction had a significant relationship so the null hypothesis can still be rejected and the alternative hypothesis is retained.

The research adds to the current knowledge base with regard to psychological resilience and its role to significantly impact personal growth, satisfaction with life, and on some level marital satisfaction. Chapter 5 will provide a brief summary of the study and an explanation of how the study was performed. Conclusions will be drawn based on the current findings and the impact their significance will have with regard to social change. Recommendations will be suggested for further future research.

Chapter 5: Discussion, Conclusions, and Recommendations

This chapter is arranged in five sections. The first section provides an overview of the why and how the study was conducted and reviews the research questions. The second section includes the interpretation of the findings within the context of the peer reviewed literature in conjunction with the theoretical framework. Limitations and generalizability of the findings are discussed in the third section. The fourth section addresses recommendations for future research and the fifth section examines possible implications for social change. Finally, the chapter concludes with a brief summary.

Study Overview

The purpose of this nonexperimental quantitate study was to examine the relationship between psychological resilience and personal growth in caregivers with MS spouses. I attempted to answer three research questions. I attempted to address the gap in the literature regarding how psychological resilience may be related to personal growth, satisfaction with life, and marital satisfaction and if there was a significant relationship. The study and its fundamental importance were justified by the wealth of empirical literature. The importance of psychological resilience has been documented mainly in children and how it can aid in an individual’s response to a traumatic event. Researchers have shown how psychological resilience can help people handle future challenges while continuing to maintain cognitive and emotional functioning. DiLillo (2001) stated by having a clearer understanding of how psychological resilience impacts an individual it could be used to promote personal growth, improved marital relationships, and increase positive interactions with regard to school and work. By understanding the factors that

contribute to healthy relationships could be a great benefit with regard to increasing personal growth and developing appropriate interpersonal relations with family and friends (Flores et al., 2005).

I intended to add to such findings to show whether psychological resilience is significantly related to personal growth, satisfaction with life, and marital satisfaction while being a caregiver to a spouse with MS. Although a significant positive relationship was found, there were other results that contributed to the significant relationship. The relationship between psychological resilience and personal growth, life satisfaction and marital satisfaction all had either age, health circumstances, gender, or previous intervention as contributing variables and these will be discussed in the interpretations of findings.

Interpretation of Findings

A significant positive association was found between psychological resilience and personal growth. These findings could suggest that with increased resilience the individual is able to increase their personal growth. The findings also suggest that with future efforts in counseling and therapy directed to increase knowledge of resilience in combination with growth will help to increase confidence and reduce stress.

Preliminary analysis found that PGIS total scores were higher for men that have had a health complication of their own, are employed, and have earned at least a bachelor degree. However, more research is suggested to confirm these findings, considering that the spousal population may not be representative of the general caregiving public. This spousal caregiver sample may be different with regard to level of education, age, and

level of obligation to participate in the study. Also this sample size was small, with only 35% female respondents. The other significant factor contributing to resilience and personal growth was health complications. The findings suggest that individuals already coping with their own health issues (obesity, smoker and other were the majority in this study) have already developed psychological resilience and have been able to apply it to increasing their growth and improving their ability to cope with their spouse's illness. When comparing these findings to current research caregivers tend to increase stress when their spouse is ill by experiencing many of the same symptoms such as pain, lack of sleep, and anger but are not aware of these stressors (Northouse, et al., 2000). The preliminary findings also displayed that RS scores were positively related with the duration of marriage as well as for those individuals who were older with children. These findings will be further interpreted in the context of previous literature.

The second analysis examined the relationship between resilience and satisfaction with life. The majority of the respondents scored in the highly satisfied range. The participants in this category were mostly married males but about a quarter of the respondents were female. The caregivers tended to feel that they have a good handle on their lives and for the most part satisfied with their life, although they acknowledge their lives are not perfect. According to Diener (2006), challenges and growth can contribute to the participants feeling of satisfaction and enhance major domains of life including work, school, family and personal development. The rest of the participants scored in the average range, displaying that they are general satisfied but feel some areas in their life could be improved. Diener stated that the most important influences on satisfaction are

social relationships, work or school, and personal satisfaction. 80% of the participants work full time, while 11% are retired. 30% were over the age of forty and 60% were white. 38% have graduated with a bachelor's degree while 29% had some other college degree.

Diener (2006) asserted that although a stressor such as a loss of family or friend can cause some dissatisfaction the individual is usually able to bounce back from the loss. The same with work if the individual fails to make adequate progress they can become dissatisfied but will eventually make adjustments and turn bad circumstances into personal strengths (Diener, 2006). Further research could bring more insight into these general findings. The preliminary findings also displayed the longer the marriage, the duration of time of dealing with MS, and the older the participant the higher satisfaction of life became. These findings will be further interpreted in the context of previous literature.

The third analysis examined the relationship between psychological resilience, satisfaction with life and marital satisfaction. Although the results did show that there was a significant correlation between resilience and satisfaction with life, the variable of marital satisfaction was only met through mediating terms. The results showed that psychological resilience and personal growth, satisfaction with life, and marital satisfaction are individually important factors that can be impacted by certain background variables; but, resilience does influence growth and satisfaction of life in itself. It was expected that resilience would also be a significant predictor of marital satisfaction. However, within the model it was not. It is likely that satisfaction with life is acting as a

mediator between resilience and marital satisfaction, causing it to not be significant within the model for the research question in this study. Further study should be done in order to examine the potential mediating relationship between these three variables. This chapter will discuss how these findings fit with the reviewed literature as well as any discrepancies that were found. Further, the limitations of the study, recommendations for future studies, and implications for positive social change will be discussed in the following sections.

Literature Review and Research Findings

The data analysis supported the alternative hypotheses, stating that there was a significant correlation between psychological resilience and personal growth as well as satisfaction with life. Although it was found that resilience is related to marital satisfaction through mediating terms it is higher for those who have children, work full time, and scored high on the satisfaction with life scale. The reviewed literature suggested an individual with higher resilience can have positive influence on a person’s wellbeing, coping techniques, and will more likely improve quality of life. Badr et al. (2008) stated spousal relationships need a strong support system to enhance the individual’s QOL, improved prognosis, and decrease emotional instability (depression, anxiety, anger, & guilt). The results showed that MS can be considered a long term stressor, especially when the spousal caregiver’s efforts are not recognized or when the caregiver is resistant to improve their own quality of life.

Many of the participants have children and may have felt increased obligation to work through their stress and marital issues in order to keep the family together.

According to the National Alliance for Caregiving (2009), caregivers may find caring for someone with a chronic illness deeply satisfying, it can also be extremely overwhelming leading to physical and emotional exhaustion, especially if there are younger children involved. Hohol, Orav, and Weiner (1999), state that the most common emotion felt by caregiver's is initially compassion followed closely by fear and anxiety, with their life most negatively impacted by the higher financial burden and sacrificing of hobbies or other activities they use to enjoy. The significant correlation between psychological resilience and personal growth may be explained by the previous literature stating that a strong support system is necessary and contributes to the success of improved wellbeing.

Hohol et al. (1999) found that caregivers who feel they had a choice in providing care to the MS patient feel less negative and are able to find positive impacts than those who feel they do not have a choice. Prolonged stress, is commonly found in caregiving for others with chronic illness, may lead to increased resilience and personal growth but the individual will need to have the support of others along with satisfaction of life. An individual's tendency to pay excessive attention to their family member or in this study their spouse can actually bring about negative effects due to stress, lack of personal attention, financial burden, and depressive mood states (Hohol et al., 1999). This is providing another example of how increased levels of resilience may lead to improved personal growth.

These findings are important, considering that resilience can be enhanced, which may be of interest to individuals facing traumatic events or the stressor of providing care for their loved one. For example, the U.S. military is now utilizing a resilience-building

program consisting of a 10 day training session that focuses on building personal strengths, developing positive relationship, and enhance mental toughness (Paul, 2012). Such interventions could increase resilience, could increase personal growth, and decrease anxiety and depression. According to APA (2007) developing strong relationships, learning how to interpret and respond better to stressful situations, being able to adapt, increase motivation to complete goals, increasing awareness of behavior, increasing positivity, and providing quality care for oneself have been shown to increase resilience. Resilience can be improved and if such interventions were made available and implemented with caregiver's then personal growth is possible.

I found that males who had been married longer than 10 years had higher resilience. These findings could account for the individual's ability to be self-aware, have increased skills to manage their emotions, they may be more willing to disclose stress and other issues with their partner, which all increase resilience and personal growth. The findings of a lack of correlation between resilience and marital satisfaction is surprising considering the ample literature discussing that resilience is related to increase communication, positive growth, and improved interpersonal relationships. Psychological resilience within a family highlights positive adjustment when facing challenging condition including mastery of stage salient tasks during the life transition (Luthar et al., 2000). Resilience was further related to protective processes (adaptive appraisal, compensating experiences, and social support) that affect the family as a whole and pass to each member in a circular manner (Walsh, 2002). In interpersonal relationships, resilience has been shown to enhance the relationship quality by improving

communication, developing stress management, and effectively improving the quality and commitment of the relationship (Markman et al., 1993).

Although I did not find a direct correlation between resilience and marital satisfaction, the hypothesis was still found to be significantly positive through mediating terms. There was a significant positive correlation between satisfaction with life and marital satisfaction. Markman et al. (1993) argued that romantic relationship could be improved through dimensions of mediating factors including dealing with the effects of a significant stressor, relationship quality, satisfaction and commitment. A reason for the less significant findings in this study could be that the other studies used different approaches to measure marital satisfaction or utilized other skills associated with resilience. For example, Beck (2010) used Resilience in Romantic Relationship (IR3) to evaluate the dimensions of marriage. Yet this tool evaluated other aspects of the marital relationship none of which were satisfaction in particular. This example does show that the current literature has utilized several tools to investigate resilience and thus could lead to some conflicting findings.

Resilience appeared to be impacted by gender, length of marriage, and having children. Certain skills could have contributed to this such as emotional awareness, emotional management, self-awareness and increased socialization skills, which are supported by the literature as well. Male respondents are more likely than female caregivers to provide care because MS affects more 80% more females (Hohol et al., 1999). Although in this study the results favored the males more, there are many similarities between both genders with regard to caregiving. Both have the tendency to

experience negative and positive impacts in their life and both feel burdened, although males have been found to utilize their resources more than women (Hohol et al., 1999). Again, these findings can contribute to the current literature and may lead to new insight into policies and procedures offered by mental health professionals. These implications will be discussed in the recommendations section.

Theoretical Framework and Research Findings

The theoretical framework for this study, Walsh's (DATE) family resilience theory, supported RS as composed of three concepts: (a) belief system, (b) organizational patterns, and (c) communication processes. Given that the study did find a significant correlation between overall RS and PGIS and SWLS scores, no further analysis in the form of a post hoc test was performed to gain a clearer understanding of the three sublevels. However, there are some speculations could be made regarding current findings and previous literature. For example, Walsh (2002) found that psychological resilience is vital to improving relationships in order to stimulate personal growth. These findings suggest that increase RS is indeed vital. The current study found that individuals with higher RS also had higher satisfaction with life, possibly contributing to marital satisfaction, and this can positively influence the duration and longevity of the relationship. As previously mentioned, the correlation of psychological resilience and having children may support these findings as well.

On reflective regulation of resilience, Walsh (2002) found that the ability to remain open minded and willing to analyze all options could minimize the negative effects of stress. Higher resilience for individuals who have been married longer and have

children may contribute to the individual's ability to increase personal growth, satisfaction with life and find more satisfaction in their marriage. According to the current findings there is a significant correlation for personal growth after a traumatic experience.

The literature also showed that understanding and analyzing resilience can reduce stress, increase quality of life, improve relationships, and increase coping capabilities (Walsh, 2002). The study found a significant correlation between resilience and personal growth, satisfaction with life, and mediating factors with marital satisfaction, including the ability to understand and analyze emotional stress, caregiver burden, increase communication within the family unit, and increased the likelihood that the caregiver would seek external help from friends or psychological professionals. These abilities may even influence the length of the marriage, how they raise their children, how they deal with stress at work, and how they attend to their own needs including health care and overall wellbeing.

Limitations of the Study

One of the limitations to this study was that the individuals were asked to complete the surveys independently, this lead to some participants not completing the survey. Out of 124 participants only 115 completed the survey and nine respondents did not fully complete the survey. Individuals who missed questions on the demographics questionnaire or any of the four scales were excluded. According to the RS guidelines, data is deemed unacceptable if the respondent does not answer every question; thus these individuals were excluded from the study. This sample was chosen to meet the

appropriate effect size. Due to the limited time frame other caregiver groups (children, parents, family members, siblings, partners, etc.) were not studied.

Participants may have had a tendency to respond in a socially desirable fashion which may have impacted the findings. Responding this way could have skewed the data by giving an inaccurate impression of the individual with regard to resilience and personal growth, life satisfaction, and marital satisfaction. For example, people tend to compare themselves to others and utilize this to form their own perception of self, thereby influencing their actual perceptions with regard to satisfaction with life, marriage and personal growth. This possibility was considered when analyzing the results but the results did remain constant throughout the survey for the participants. This sample was drawn from individuals living in the United States, who have at least some education, and provide financial support for the family, this population may not fully represent the caregiver population as a whole. In addition, the majority of the respondents were older males that have been married over 10 years, again possibly limiting generalizability.

Resilience is viewed as a subjective concept (Miller et al., 2010), this theoretical foundation could be challenged, and other factors could be utilized to measure the individual's ability to confront traumatic experiences and increase personal growth. Lastly, the collected data was cross-sectional, which increases the cause and effect nature of the relationship between resilience and personal growth, satisfaction with life, and marital satisfaction, increasing the possibility to draw such conclusions.

Recommendations

Based on the findings of this study, it is recommended that psychological professionals utilize tools such as the PGIS, RS, SWLS, and EMS when evaluating caregivers who have gone through a traumatic experience. The utilization of these tools would allow the professional to gain a fair base line with regard the individuals' level of satisfaction, burden they are currently feeling, marital status, and the level of the perceived growth at the current time. The findings showed that there is a significant correlation between resilience and personal growth, satisfaction with life, and marital satisfaction. Considering that personal growth and satisfaction is not the same for each individual, it is beneficial to obtain the level of growth and satisfaction to help with developing future goals and when creating an effective treatment plan.

I found that resilience varies depending on age, duration of marriage, if the couple has children, gender, marital satisfaction, duration of diagnosis, current health status, and life satisfaction; it was also found that older males had higher resilience. Given that this study found a significant correlation between resilience and personal growth and satisfaction of life there was only a significant relationship with marital satisfaction through mediating factors. Future researchers should investigate aspects of this relationship to address the lack of correlation. For example, current research has shown that marital satisfaction can be influenced by the caregiver burden in watching over their partner; although in the case of older caregivers the marital satisfaction was increased (Fitzpatricka & Vacha-Hassea, 2010). Although I did find a significant relationship between resilience and personal growth after a traumatic situation, I have not addressed

certain aspects. Therefore, possible future research could examine issues that add the qualitative component, examining other populations including children, parents, life partners, siblings, conducting an experimental study, evaluating and comparing different therapies, evaluating the level of personal growth, satisfaction with life, and marital satisfaction at different intervals throughout the study, and examining the family members level of disability with regard to their illness. Considering that this study found a significant positive relationship between resilience and personal growth, satisfaction with life, and marital satisfaction further research is needed to clarify these correlations.

Implications

The implications for social change are the potential changes that could occur with regard to policy and therapies, considering that resilience, personal growth, and satisfaction vary amongst individuals. The differences are important to consider when working with the individual because it may or may not take them long to recover after experiencing a traumatic situation. According to the study people who have been married longer and have children tend to have higher resilience, personal growth, and satisfaction with life. Also resilience was found to be higher in the older males. Psychological professionals need to be aware of these difference when evaluating, working, and determining goals with their clients. These adjustments will require additional training in order to provide the professional with the necessary information to best enhance these qualities in their clients. Policy recommendations could include further required training, more attention devoted to caregivers to ensure that their needs are not being ignored, and enhanced interventions for the client to understand their situation.

It is recommended that policy makes these adjustments because literature has shown that resilience can contribute and improve coping skills, enhance relationships, and increase personal growth. Further, the current study demonstrates a significant positive correlation between resilience and personal growth as well as satisfaction. These results were also related to the duration of marriage and the couple had children. It may be argued that caregivers with higher resilience may have the necessary tools to extend the duration of their marriages and that having children requires enhancing their resilience. Thus, it can be determined that resilience varies depending on the individuals living situation and these findings could lend more insight on how to best impact social policies. The current literature on resilience could be utilized by the American Psychological Association as well as other organizations to provide training and support to individuals that have recently or currently going through traumatic experiences.

Given that the current study along with the literature has shown that resilience can be enhanced in caregivers after a traumatic experience, professionals could take advantage of this knowledge when evaluating and working with caregivers. When determining interventions, professions need to evaluate the individual's level of resilience as well as their level of growth and satisfaction in order to promote and enhance these qualities with the caregiver.

Since there was a variation in resilience amongst participants depending on duration of marriage, having children, gender and age, these findings bring to light how resilience and personal growth can be impacted. Aforementioned recommendations could help improve policy and professional adjustments as well as improve interpersonal

relationships and increase growth and satisfaction. Psychological services should target the enhancement of resilience to improve coping skills, communication, relationships, growth, satisfaction with life, and overall wellbeing. Future changes could lead to healthier and happier caregivers who will in turn provide enhanced healthcare for their family member.

In conclusion, my study found a significant positive correlation between resilience and personal growth, satisfaction with life, and marital satisfaction. Important insights have been gained such as there are certain factors that seem to enhance resilience (duration of marriage, having children) and personal growth (gender and age). These findings are vital and adjustments could be made to policy and professional treatments in order to provide enhanced interventions for the caregiver who has experienced the traumatic event.

Conclusions

For this study I focused on a sample of individuals who were the primary spousal caregiver to their MS partners. The research was designed to examine the collected survey data to analyze the correlation between resilience and personal growth, satisfaction with life, and marital satisfaction. The results of the RS, PGIS, SWLS, and the EMS determined that there was a significant positive correlation between the independent and dependent variables. However, a mediating relationship was found between resilience and marital satisfaction. Psychological resilience was found to be higher in older males who have children and had been married longer than 10 years. The findings from the study suggest that the anticipated positive relationship between

resilience and personal growth does indeed exist. There findings are vital when considering the improvements that can be made to current therapies as well as future programs that can focus on the mental and physical health of the caregiver, not to mention important policy and professional changes that could occur.

The results suggest that individuals who are exposed to long term stress such that comes from caring for someone with a chronic illness may be in need on intervention, and the research has shown that resilience along with personal growth and satisfaction with life can be enhanced. Further, the findings suggest that resilience may be related to the duration of marriage and having children, suggesting that these individuals are able to draw upon their coping skills and more equipped to involve family. Lastly, these findings suggest that resilience, personal growth, satisfaction with life, and marital satisfaction can be improved and enhance the individuals quality of life. These findings give important insight into resilience as well as provide an opportunity for future studies to build on this knowledge in order to help caregivers.

References

Advanced Psychological Assessment. (2006). *Adaptive functioning*. Retrieved from http://www.advancedpsy.com/adaptive_functioning-page-28.html

Affleck, G., Urrows, S., Tennen, H., Higgins, P., Pav, D., & Aloisi, R. (1997). A dual pathway model of daily stressor effects on rheumatoid arthritis. *Annals of Behavioral Medicine, 19*, 161-170.

Aguinis, H., Petersen, S., & Pierce, C. (1999). Appraisal of the homogeneity of error variance assumption and alternatives to multiple regression for estimating moderating effects of categorical variables. *Organizational Research Methods, 2,* 315-339. doi:10.1177/109442819924001

American Academy of Family Physicians. (2004). *Mind/body connection: How your emotions affect your health*. Retrieved from http://familydoctor.org

American Cancer Society. (2007). Cancer facts & figures. Atlanta: American Cancer Society. Retrieved from http://www.cancer.org

American Psychological Association. (2013). *Chronic illness*. Retrieved from http://www.apa.org/helpcenter/chronic.aspx

American Psychological Association. (2012). *The road to resilience*. Retrieved from http://www.apa.org/helpcenter/road-resilience.aspx

American Psychological Association. (2007). 10 Tips to Build Resilience. *Psych Central*. Retrieved from http://psychcentral.com/lib/10-tips-to-build-resilience/0001146

Anderson, G.F. (2005). Medicare and chronic conditions. *New England Journal of Medicine, 353*(3), 305-309. Retrieved from PubMed.gov

Anderson, N.B., Johnson, S.B., Belar, C.D., Breckler, S.J., Nordal, K.C., Ballard, D., Kelley, K. (2011). Stress in America: Our health at risk. *American Psychological Association,* 1-73. Retrieved from http://www.stressinamerica.org

Aponte, H. (1994). *Bread and spirit: Therapy with the new poor*. New York, NY: W.W. Norton.

Appels, A., Bar, F.W., Bar, J., & Bruggeman.C. (2000). Inflammation, depressive symptomatology and coronary artery disease. *Psychosomatic Medicine, 62*, 601-605.

Armando, A., da Motta N.W., Pinto, R.C., Matiello, J., Da Silva, D.L., & Ferreiro-Filbo, A.F. (2010). Analysis of resilience and depression scores and their relation to quality of life in ambulatory lung cancer patients undergoing radiation therapy. *American Society of Clinical Oncology, 28*(15).

Aronson, K.J. (1997). Quality of life among persons with multiple sclerosis and their caregivers. *Neurology*, *48*(1), 74-80.

Aronson, K.J., Cleghorn, G., & Goldenberg, E. (1996). Assistance arrangements and use of services among persons with multiple sclerosis and their caregivers. *Disability and Rehabilitation, 18*(7), 354-361. doi:10.3109/09638289609165894

Avey, J.B., Luthans, F., & Jensen, S.M. (2009). Psychological capital: A positive resource for combating employee stress and turnover. *Human Resource Management, 48*(5), 677-693. doi:10.1002/hrm.20294

Badr, H., & Cramack Taylor, C.L. (2008). Effects of relationship maintenance on psychological distress and dyadic adjustment among couples coping with lung cancer. *Health Psychology, 27*(5), 616-627. doi:10.1037/0278-6133.27.5.616

Baumeister, R.F. (2002). Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. *Journal of Consumer Research*, 28(4), 670-676.

Beasley, M., Thompson, T., & Davidson, J. (2003). Resilience in response to life stress: The effects of coping style and cognitive hardiness. *Personality and Individual Differences, 34*, 77-95.

Beeghly, M., & Cicchetti, D. (1994). Child maltreatment, attachment, and the self-system: Emergence of an internal state lexicon in toddlers at high social risk. *Development and Psychopathology, 6*, 5-30.

Bernard, L.C., & Krupat, E. (1994). *Health psychology: Biopsychosocial factors in health and illness. New York: Harcourt Brace College Publishers*.

Bluck, S., & Glueck, J. (2004). Making things better and learning a lesson: Experiencing wisdom across the lifespan. *Journal of Personality, 72*(3), 543-572. doi:10.1111/j.0022-3506.2004.00272.x

Bodenmann, G. (1997). Dyadic coping–a systemic-transactional view of stress and coping among couples: Theory and empirical findings. *European Review of Applied Psychology, 47,* 137-140.

Bolger, N., DeLongis, A., Kessler, R.C., & Schilling, E.A. (1989). Effects of daily stress on negative mood*. Journal of Personality and Social Psychology, 57*(5), 808-818.

Bolger, K. E., Patterson, C. J., & Kupersmidt, J. B. (1998). Peer relationships and self-esteem among children who have been maltreated. *Child Development, 69,* 1171-1197.

Bonanno, G.A., Bucciarelli, A., Vlahov, D., & Galea, S. (2007). What predicts psychological resilience after disaster? The role of demographics, resources, and life stress. *Journal of Consulting and Clinical Psychology, 75*(5), 671-682. doi:10.1037/0022-006X.75.5.671

Bonanno, G.A., Rennicke, C., & Dekel, S. (2005). Self-enhancement among high-exposure survivors of the September 11th terrorist attack: Resilience or social maladjustment? *Journal of Personality and Social Psychology*, *88*, 984-998.

Bonanno, G.A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *Journal of Personality and Social Psychology, 59*(1), 20-28. doi:10.1037/0003-066A.59.1.20

Booth, C., Rose-Krasnor, L., McKinnon, J., & Rubin, K. (1994). Predicting social adjustment in middle childhood: Role of preschool attachment security and maternal style. *Social Development, 3*, 189-204.

Boss, P. (1999). *Ambiguous loss: Learning to live with unresolved grief.* Cambridge, MA: Harvard University Press.

Brace, N., Kemp, R., & Snelgar, R. (2006). *SPSS for psychologists* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Publisher.

Brandtstadter, S., & Santos, G.D. (2009). *Chinese kinship: Contemporary anthropological perspectives*. Mahwah, NJ: Routledge Academic.

Braunstein, S.L (2007). Exact quantum algorithm to distinguish Boolean functions of different weights. Journal of Physics: A Mathematical and Theoretical, 40(29), 8441-8449. doi:10.1088/1751-8113/40/29/017

Brault, M.W., Hootman, J., Helmick, C.G., Theis, K.A., & Armour, B.D. (2009). Prevalence and most common causes of disability among adults – United States 2005. Centers for Disease Control and Prevention. (2009, May). *MMWR Morb Mortal Wkly Rep, 56*(16), 421-426. PubMed.gov.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Boston, MA: President and Fellows of Harvard College.

Bugental, D. (2000). Acquisition of the algorithms of social life: A domain-based approach. *Psychological Bulletin*, *126*, 187-219.

Buhse, M. (2008). Assessment of caregiver burden in families of persons with Multiple Sclerosis. *Journal of Neuroscience Nursing*, *40*(1), 25-31.

Calhoun, L.G., & Tedeschi, R.G. (Eds.). (2006). Handbook of posttraumatic growth: Research and practice. Mahwah, NJ: Erlbaum.

Calhoun, L.G., & Tedeschi, R.G. (2002). Posttraumatic growth: The positive lessons of loss. In R.A. Neimeyer, (Ed.), *Meaning reconstruction and the experience of loss* (pp. 157-172). Washington, DC, US: American Psychological Association.

Castillo, J.J. (2009). Stratified sampling: Subjects proportionally selected from subgroups. The scientific method, science, research and experiments. Retrieved from http://www.experiment-resources.com/stratified-sampling.html

Center for the Study of Social Policy. (2013). *Strengthening families*. Retrieved from http://www.chhs.ca.gov/initiatives/CAChildWelfareCouncil/Documents/Protective%20Factors%201Pager.pdf

Cicchetti, D. (2010, October). Resilience under conditions of extreme stress: A multilevel perspective. *World Psychiatry, 9*(3), 145-154. PMC2948722.

Cicchetti, D. & Lynch, M. (1995). Failures in the expectable environment and their impact on individual development: The case of child maltreatment. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental Psychopathology* (Vol. 2, pp. 32-71). New York: John Wiley & Sons, Inc.

Cicchetti, D., & Lynch, M. (1993). Toward an ecological/transactional model of community violence and child maltreatment: Consequences for children's development. *Psychiatry, 56,* 96–117.

Cicchetti, D., & Rogosch, F. A. (1997). The role of self-organization in the promotion of resilience in maltreated children. *Development and Psychopathology,9,* 797–815.

Cicchetti, D., Rogosch, F. A., Lynch, M., & Holt, K. D. (1993). Resilience in maltreated children: Processes leading to adaptive outcome. Development and Psychopathology, 5, 629−647.

Clements, K., & Turpin, G. (1996). The life events scale for students: Validation for use with British samples. *Personality and Individual Differences*, *20*, 747-751.

Cohen, D.J. (2006). *Development psychopathology, risk disorder, and adaptation* (3rd ed.). Hoboken, New Jersey: John Wiley & Sons.

Cohen, J., Cohen, P., West, S.G., & Aiken, L.S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Cohan, C. L., & Bradbury, T. N. (1997). Negative life events, marital interaction, and the longitudinal course of newlywed marriage. *Journal of Personality and Social Psychology, 73*, 114-128.

Coleman, J., Rath, L., & Carey, J. (2001). Multiple sclerosis and the role of the MS nurse consultant. *Australian Nursing Journal, 9*, CU1-CU4.

Colligan, T.W., & Higgins, E.M. (2006). Workplace stress etiology and consequences.. *Journal of Workplace Behavioral Health*, *21*(2), 89-97.

Coomber, B., & Barriball, K.L. (2007). Impact of job satisfaction components on intent to leave and turnover for hospital-based nurses: A review of the research literature. *International Journal of Nursing Studies*, *44*(2), 297-314.

Conger, R. D., Rueter, M. A., & Elder, G. H., Jr. (1999). Couple resilience to economic pressure. *Journal of Personality and Social Psychology, 76*, 54-71.

Corrigan, J. (2000). The satisfaction with life scale. *The Center for Outcome Measurement in Brain Injury. Retrieved from* http://www.tbims.org/combi/swls

Courts, N.F., Buchanan, E.M., & Werslein, P.O. (2004). Focus groups: The lived experience of participants with multiple sclerosis. *Journal of Neurosciences Nursing*, *36*, 42-47.

Courts, N.F., Newton, A.N., & McNeal, L.J. (2005). Husbands and wives living with multiple sclerosis. *Journal of Neurosciences Nursing*, *37*(1), 20-27.

Coutu, D. L. (2002). How resilience works. *Harvard Business Review*, PROD#:R0205B-PDF-ENG

Cui, W., & Zack, M.M. (2013, July). Trends in health-related quality of life among adolescents in the United States, 2001-2010. *Centers for Disease Control and Prevention: Preventing Chronic Disease, 10*, 1-6. doi:10.5888/pcd10.120334

Dantzer R (2001). Cytokine-induced sickness behavior: mechanisms and implications. *Ann N Y Acad Sci 933*: 222–234.

Davis, R. N., Caldwell, C. H., Clark, S. J., & M. Davis, M. (2009). Depressive symptoms in nonresident African American fathers and involvement with their sons. *Pediatrics, 124*, 1611-1618. doi: 10.1542/peds.2009-0718

Davidson, J., Bondi, L., & Smith, M. (2005). *Emotional geographies*. Hampshire, UK: Ashgate.

Deegan, P. (1997). Recovery as a journey of the heart. *Psychiatric Rehabilitation Journal*, *19*, 91-97.

Diener, E., Emmons, R.A., Larsen, R.J., Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49, 71*-5.

Diener, E. (2009). *Satisfaction with life scale (SWLS)*. Retrieved from http://internal.psychology.illinois.edu/~ediener/SWLS.html

DiLillo, D. (2001). Interpersonal functioning among women reporting a history of childhood sexual abuse: Empirical finding and methodological issues. *Clinical Psychology Review, 21*(4), 553-576. doi:10.1016/S0272-7358(99)00072-0

Eberhart, N.K., & Hammen, C.L. (2010, November). Interpersonal style, stress, and depression: An examination of transactional and diathesis-stress models. *Journal of Social Clinical Psychology, 29*(1), 23–38. doi:10.1521/jscp.2010.29.1.23

Farber, E. A., & Egeland, B. (1987). Invulnerability among abused and neglected children. In E. Anthony, & B. Cohler (Eds.). The invulnerable child (pp. 253−288). NY: Guilford Press.

Family Caregiver Alliance. (2012). *Selected caregiver statistics*. Funded by the Administrations on Aging. Retrieved from https://caregiver.org/selected-caregiver-statistics

Feldman-Barrett, L. & Gross, J. (2001). Emotion representation and regulation: A process model of emotional intelligence. In Mayne, T. & Bonnano, G. (Eds.). Emotion: Current issues and future directions, 286-310. New York: Guilford.

Figved, N., Myhr, K., Larsen, J., & Aarsland, D. (2007, January). Caregiver burden in multiple sclerosis: The impact of neuropsychiatric symptoms. *Journal of Neurology, Neurosurgery, & Psychiatry, 78*(10), 1097-1102. doi:10.1136/jnnp.2006.104216

Finkel, E.J., & Campbell, W.K. (2001). Self-control and accommodation in close relationships: An interdependence analysis. *Journal of Personality and Social Psychology, 81,* 263-277. doi:10.1037/0022-3514.81.2.263

Fisher, T.D., & McNulty, J. (2010). *Current directions in human sexuality and intimate relationships*. Boston, MA: Allyn & Bacon.

Fitzpatrick, K., E., & Vacha-Haase, T. (2010). Marital satisfaction and resilience in caregivers of spouses with dementia. *Clinical Gerontologist, 33,* 165-180.

Flores, E., Cicchetti, D., & Rogosch, F.A. (2005). Predictors of resilience in maltreated and non-maltreated Latino children. *Developmental Psychology, 41*(2), 338-351. doi:10.1037/0012-1649.41.2.338

Foley, D.L., Eaves, L.J., Wormley, B., Silberg, J.L., Maes, H.H., Kuhn, J., & Riley, B. (2004). Childhood adversity, monoamine oxidase a genotype, and risk for conduct disorder. *Archives of General Psychiatry, 61*(7), 738-744. doi:10.1001/archpsyc.61.7.738

Fowers, B. J. & Olson, D. H. (1993). ENRICH marital satisfaction scale: A brief research and clinical tool. *Journal of Family Psychology*, 7(2), 176-185.

Fredrickson, B.L., Waugh, C.E., & Larkin, G.R. (2003, February). What good are positive emotions in crises? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of Personality Social Psychology, 84*(2), 365-376.

Garmezy, N. (1991). Resiliency and vulnerability to adverse developmental outcomes associated with poverty. *American Behavioral Scientist*, 34(4), 416-430.

Garmezy N. (1995). Development and adaptation: The contributions of the MacArthur Foundation and William Bevan. (5, pp. 109-124). In: Kessel F, editor. Psychology, science, and human affairs: Essays in honor of William Bevan. Boulder, CO: Westview Press.

George, D. & Mallery, P. (2010). *SPSS for Windows step by step: a simple guide and reference, 18.0 update* (11th ed.). Boston, MA: Allyn and Bacon.

Glantz, M.D., Johnson, J.L. (1999). Resilience and development: Positive life adaptations. New York, N.Y.: Kluwer Academic/Plenum Publishers.

Harbuz M.S., Chover-Gonzalez A.J., Jessop D.S. (2003). Hypothalamic-pituitary-adrenal axis and chronic immune activation. Annual New York Academy of Sciences. 992, 99–106.

Harris, J.R., & Wallace, R.B. (2012, September). The institute of medicine's new report on living well with chronic illness. *Preventing Chronic Disease, 9*, 120-126. DOI: http://dx.doi.org/10.5888/pcd9.120126

Hartifiel, N., Havenhand, J., Khalsa, S.B., Clarke, G., Krayer, A. (2011). The effectiveness of yoga for the improvement of well-being and resilience to stress in the workplace. *Scandinavian Journal of Work, Environment, & Health*, 37(1), 70-76.

Haskett, M.E., Nears, K., Ward, C.S., & McPherson, A.V. (2006, February). Diversity in adjustment of maltreated children: Factors associated with resilient functioning. *Clinical Psychology Review, 26*, 796-812. doi:10.1016/j.cpr.2006.03.005

He, F., Cao, R., Feng, Z., Guan, H. & Peng, J. (2013, December). The impacts of dispositional optimism and psychological resilience on the subjective well-being of burn patients: A structural equation modelling analysis. *PLOS One, 8(12),* e82939, doi: 10.1371/journal.pone.0082939

Herrenkohl, E. C., Herrenkohl, R. C., & Egolf, B. (1994). Resilient early school-age children from maltreating homes: Outcomes in late adolescence. American Journal of Orthopsychiatry, 64, 301−309.

Herrenkohl, E. C., Herrenkohl, R. C., Rupert, L. J., Egolf, B. P., & Lutz, J. G. (1995). Risk factors for behavioral dysfunction: The relative impact of maltreatment, SES, physical health problems, cognitive ability, and quality of parent–child interaction. *Child Abuse and Neglect*, 19, 191−203.

Hogan, R., Johnson, J., & Briggs, S. (1997). *Handbook of personality psychology*. London, UK: Academic Press Limited.

Hohol MJ, Orav EJ, Weiner HL. Disease steps in multiple sclerosis: A longitudinal study comparing disease steps and EDSS to evaluate disease progression. *Multiple Sclerosis*. 1999 Oct; 5(5):349-54

Holahan, C. J., & Moos, R. H. (1990). Life stressors, resistance factors, and psychological health: An extension of the stress-resistance paradigm. *Journal of Personality and Social Psychology, 58,* 909–917.

Holland, N. (2003, December). Multiple sclerosis: New options for care. *Nursing Spectrum Career Fitness*.
Retrieved from http://nsweb.nursingspectrum.com/ce/ce238.htm

Hoyt, W., Leierer, S., & Millington, M. (2006). Analysis and interpretation of findings using multiple regression techniques. *Rehabilitation Counseling Bulletin, 49*(4), 223-233.

Hymowitz, C. (2007, April). Executive's motto for reducing job stress: Work hard, be nice. *The Wall Street Journal Online*. ABI/Inform Global Database.

Institute of Medicine. (2012). Living well with chronic illness: A call for public health action. *The National Academies Press*, Washington, DC.

International Center for Alcohol Policies. (2013). *Data analysis and interpretation*. Retrieved from http://www.icap.org/PolicyTools/Toolkits/EvaluationToolkit/4DataAnalysisandInterpretation/tabid/446/Default.aspx

Israel, G.D. (2009, April). Determining sample size. *University of Florida IFAS Extension*, 1-5.

Hoyt, W., Leierer, S., & Millington, M. (2006). Analysis and interpretation of findings using multiple regression techniques. *Rehabilitation Counseling Bulletin, 49*(4), 223-233.

Jaccard, J., Guilamo-Ramos, V., Johansson, M., & Bouris, A. (2006). Multiple regression analyses in clinical child and adolescent psychology. *Journal of Clinical Child and Adolescent Psychology, 35*(3), 456-479.

Jones, S. (1996). The association between objective and subjective caregiver burden. Archives of Psychiatric Nursing, 10, 77-84.

Joy, J.E., & Johnston, R.B. (2001). *Multiple Sclerosis: Current status and strategies for the future*. Washington, D.C.: National Academy Press.

Karney, B., Story, L., & Bradbury, T. (2005). Marriages in context: Interactions between chronic and acute stress among newlyweds. In T. A. Revenson, G. Bodenmann & K. Kayser (Eds.), *Couples coping with stress* (pp. 13–32). Washington D. C.: American Psychological Association.

Kauffman, J. (Ed.). (2002). Loss of the assumptive world: A theory of traumatic loss. New York: Brunner-Routledge.

Keith, T. (2006). *Multiple regression and beyond.* PEARSON Allyn & Bacon.

Kessler, R., Price, R., & Wortman, C. (1985). Social factors in psychopathology: Stress, social support and coping processes. *Annual Review of Psychology*, *36*, 351-372.

Kiecolt-Glaser, J., & Newton, T. (2001). Marriage and health: His and hers. *Psychological Bulletin*, *127*, 472-503.

Kraft, Georg H., and Marci Catanzaro. *Living with Multiple Sclerosis: A Wellness Approach*. Demos Medical Publishing, 2000.

Kung, H.C., Hoyert, D.L., Xu, J., & Murphy, S.L. (2008, April). Deaths: Final data for 2005. *National Vital Stat Rep, 56*(10), 1-120. PubMed.gov.

Lam, V., O'Donnell, V.L., & Gillibrand, R. (2011). *Developmental psychology*. London, UK: Pearson Education Limited.

Lapsley, H., Waimarie, L.N., & Black, R. (2002). *Kia Mauri Tau! Narratives of recovery from disabling mental health problems*. Wellington: Mental Health Commission.

Lazarus, R.S., Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer Publishing Company, INC.

Le Fevre, M., Matheny, J., & Kolt, G.S. (2003). Eustress, distress, and interpretation in occupational stress. *Journal of Managerial Psychology*, *18*(7), 726-744.

Leonard, R., & Burns, A. (1999). Turning points in the lives of midlife and older women. *Australian Psychologist*, *34*, 87-93.

Littrell, J. (2008). The mind-body connection: Not Just a Theory Anymore. *Social Work in Health Care, 46 (4),* 17-38. doi:10.1300/J010v46n04_02

Locke, L.F., Silverman, S.J., & Spirduso, W.W. (2004). Reading and understanding research. Red Lion, P.A.: Sage Publications.

Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, *23*(6), 695-706.

Luthans, F., Avolio, B.J., Avey, J.B., & Norman, S.M. (2007). Psychological capital: Measurement and relationship with performance and job satisfaction. *Personnel Psychology*, *60*(3), 541-572.

Luthans, F., & Youssef, C.M. (2007). Emerging positive organizational behavior. *Journal of Management*, *33*(5), 321-349.

Luthar, S. S. (1999). *Poverty and children's adjustment.* Thousand Oaks, CA: Sage.

Luthar, S.S. (2003). *Resilience and vulnerability: Adaptation in the context of childhood adversities*. New York, NY: Cambridge University Press.

Luthar, S.S., Cicchetti, D., & Becker, B. (2003, January). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*(3), 543-562. doi:10.1111/1467-8624.00164

Luthar, S. S., & Zigler, E. (1991). Vulnerability and competence: A review of research on resilience in childhood. *American Journal of Orthopsychiatry*, 61, 6–22.

Maes, M., Verkerk, R., Vandoolaeghe, E., Van Hunsel, F., Neels, H. Wauters, A., Demedts, P., & Scharpe, S. (1997). Serotonin-immune interactions in major depression: Lower serum tryptophan as a marker of an immune-inflammatory response. *European Archives of Psychiatry and Clinical Neuroscience*, *247*(3), 154-161.

Mancini, A.D., & Bonanno, G.A. (2006). Resilience in the face of potential trauma: Clinical practices and illustrations. *Journal of Clinical Psychology, 62*(8), 974-985. doi:10.1002/jclp.20283

Marino, S. (1997). The stress epidemic. *Industry Week*, *246*(7), 14.

Markman, H. J., Renick, M. J., Floyd, F. J., Stanley, S. M., & Clements, M. (1993). Preventing marital distress through communication and conflict management training: A four and five year follow-up. *Journal of Consulting and Clinical Psychology*, 62, 70-77.

Masten A, Garmezy N. (1985). *Risk, vulnerability, and protective factors in developmental psychopathology*. In: Lahey B, Kazdin A, editors. *Advances in clinical child psychology*. Vol. 8. pp. 1-52Plenum Press; New York.

McCraty, R., & Tomasino, D. (2006). *Emotional stress, positive emotions, and psychophysiological coherence*. Weinheim, Germany: Wiley.

McCubbin, H. I., & Patterson, J. (1983). The family stress process: the double ABCX model of adjustment and adaptation. In H. I. McCubbin, M. B. Sussman, & J. M.

Patterson (Eds.), *Social stress and the family: Advances and developments in family stress theory and research* (pp. 7-37). New York: Haworth Press.

McKeown, L. P., Porter-Armstrong, A. P., & Baxter, G. D. (2003). The needs and experiences of caregivers of individuals with multiple sclerosis: A systematic review. *Clinical Rehabilitation, 17*(3), 234-248.

Meichenbaum, D. (1985) *Stress Inoculation Training,* Pergamon Press.

Miaoulis, George, and R. D. Michener. (1976). *An Introduction to Sampling*. Dubuque, Iowa: Kendall/Hunt Publishing Company.

Miller, G.E., Cohen, S., Ritchey, A.K. (2002). Chronic psychological stress and the regulation of pro-inflammatory cytokines: A glucocorticoid-resistance model. *Health Psychology, 21* (6), 531-541.

Miller, F., H. Osbahr, E. Boyd, F. Thomalla, S. Bharwani, G. Ziervogel, B. Walker, J. Birkmann, S. Van der Leeuw, J. Rockström, J. Hinkel, T. Downing, C. Folke, and D. Nelson. 2010. Resilience and vulnerability: complementary or conflicting concepts? *Ecology and Society* 15(3):11. http://www.ecologyandsociety.org/vol15/iss3/art11/

Mohr, D. C., Hart, S. L., Julian, L., Cox, D. C., & Pelletier, D. (2004). Association between stressful life events and exacerbation in multiple sclerosis: A meta-analysis and review. *British Medical Journal, 328,* 731-736.

Morley, S., Eccleston, C., Williams. A. (1999). Systematic review and meta-analysis of randomized controlled trials of cognitive behavior therapy and behavior therapy for chronic pain in adults, excluding headache. *Pain, 80* (1-2), 1-13.

National Alliance for Caregiving. (2009). *Caregiving in the U.S*. Retrieved from http://www.caregiving.org/data/Caregiving_in_the_US_2009_full_report.pdf

Nestler, E.J. (2008, Winter). The mind-body connection: Stress and your brain. *NIH Medline Plus*, *3*(1), 6.

National Institute of Health. (2002). *Stress system malfunction could lead to serious, life threatening disease*. Retrieved from http://www.nichd.nih.gov

National Institute of Neurological Disorders and Stroke. (2013). *Multiple Sclerosis: Hope through research*. Retrieved from http://www.ninds.nih.gov/disorders/multiple_sclerosis/detail_multiple_sclerosis.htm

National MS Society. (2014). Definition of MS. Retrieved from http://www.nationalmssociety.org/What-is-MS/Definition-of-MS

Neff, L.A., & Broady, E.F. (2011, June). Stress resilience in early marriage: Can practice make perfect? *Journal of Personality and Social Psychology,* 1-18. doi: 10.1037/a0023809

Neff, L. A. & Karney, B. R. (2004). How does context affect intimate relationships? Linking external stress and cognitive processes within marriage. Personality and Social Psychology Bulletin, 30, 134-148.

Neill, J. T., & Dias, K. L. (2001). Adventure Education and Resilience: The Double-Edged Sword. *Journal of Adventure Education and Outdoor Learning*, *1*(2), 35-42.

Neimeyer, R.A. (Ed.). (2001). Meaning reconstruction and the experience of loss. Washington, DC: American Psychological Association.

Nestler, E.J. (2008, Winter). The mind-body connection: Stress and your brain. NIH Medline Plus, 3(1), 6.

Northouse, L. L., Mood, D., Templin, T., Mellon, S., & George, T. (2000). Couples' patterns of adjustment to colon cancer. *Social Science & Medicine, 50,* 271–284.

O'Brien, R., Wineman, N., & Nelson, N. (1995). Correlates of the caregiving process in multiple sclerosis. Scholarly Inquiry for Nursing Practice, 9, 323-338.

O'Dougherty-Wright M, Masten AS, Northwood A, Hubbard JJ. Long-term effects of massive trauma: Developmental and psychobiological perspectives. In: Cicchetti D, Toth SL, editors. Rochester Symposium on Developmental Psychopathology: Vol. 8. Developmental perspectives on trauma. University of Rochester Press; Rochester, NY: 1997. pp. 181–225.

Olle, B., & Augustsson, K. (2005). Demands on Web Survey Tools for Epidemiological Research. European Journal of Epidemiology, Vol. 20, No. 2 pp. 137-139.

Onyishi, I.E., Okongwu, O.E., & Ugwu, F.O. (2004). Personality and social support as predictors of life satisfaction of Nigerian prisons officers. *European Scientific Journal 8*(20), 1857-7431.

Osborne, J., & Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. *Practical Assessment, Research & Evaluation, 8*(2).

Pakenham, K.I. (2005). The positive impact of multiple sclerosis on carers: Associations between carer benefit finding and positive and negative adjustment domains. *Disability and Rehabilitation, 27*(17), 985-997. doi:10.1890/03-5400

Patterson, J.M., & Garwick, A.W. (1994). The impact of chronic illness on families: A family system perspective. *Annuals of Behavior Medicine*, *16*, 131-142.

Paul, A.M. (2012). *Can you instill mental toughness?* Retrieved from http://ideas.time.com/2012/04/19/can-you-instill-mental-toughness/

Pavot, W. & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5, 164-172.

Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *Journal of Positive Psychology*, 3, 137–152

Perkins, D., & Jones, K. (2004). Risk behaviors and resiliency within physically abused adolescents. *Child Abuse and Neglect*, 28, 547−563.

Petty, S.C., Sachs-Ericsson, N., & Joiner, T.E. (2004, August). Interpersonal functioning deficits: Temporary or stable characteristics of depressed individuals? *Journal of Affective Disorders*, *81*(2), 115-122.

Pierini, D., & Stuifbergen, A. (2010, July). Psychological resilience and depressive symptoms in older adults diagnosed with post-polio syndrome. *Rehabilitation Nursing, 35*(4), 167-175.

Princeton Survey Research Associates. (1997). Labor Day survey: State of workers. *Princeton Survey Research*. Princeton Survey Research.

Randall, A.K., & Bodenmann, G. (2009, January). The role of stress on close relationships and marital satisfaction. *Clinical Psychology Review*, (10), 102-115.

Rees, J., O'Boyle, C., & MacDonagh, R. (2001). Quality of life: Impact of chronic illness on the partner. *Journal of the Royal Society of Medicine*, *94*, 563-566.

Richardson, G.E. (2002, April). The metatheory of resilience and resiliency. *Journal of Clinical Psychology, 58*(3), 307-321. doi:10.1002/jclp.10020

Riga, A. (2006, February). Business awakes to cost of stress. *The Gazette*. ABI/Inform Global database.

Riley, L. P., LaMontagne, L. L., Hepworth, J. T., & Murphy, B. A. (2007). Parental grief responses and personal growth following the death of a child. *Death Studies, 31,* 277-299.

Robitschek, S. (1998). Personal growth initiative: The construct and its measure. *Measurement and Evaluation in Counseling and Development, 30,* 183 – 198.

Robitschek, C. (1999). Further validation of the Personal Growth Initiative Scale. *Measurement and Evaluation in Counseling and Development*, 31, 197-210.

Robitschek, C. (2014). *Personal growth initiative lab*. Retrieved from http://www.webpages.ttu.edu/crobitsc/index.html

Robitschek, C., Ashton, M. W., Spering, C. C., Geiger, N., Byers, D., Shotts, G. C., & Thoen, M. A. (2012). Development and Psychometric Evaluation of the Personal Growth Initiative Scale – II. *Journal of Counseling Psychology, 59*, 274-287. doi: 10.1037/a0027310

Rogers, T. (1996). *The central limit theorem*. Retrieved from http://www.intuitor.com/statistics/CentralLim.html

Rogosch, F. A., & Cicchetti, D. (2004). Child maltreatment and emergent personality organization: Perspectives from the Five-Factor model. *Journal of Abnormal Child Psychology*, 32, 123−145.

Rolland, J. (1994). *Families, illness, and disability: An integrative treatment model*. New York, NY: Perseus Books LLC.

Ron, M. A., & Logsdail, S. J. (1989). Psychiatric morbidity in multiple sclerosis: A clinical and MRI study. *Psychology and Medicine*, *19*, 887–895.

Rutter, M. (1990). Psychosocial resilience and protective mechanisms. In S. Weintraub (Ed.), *Risk and protective factors in the development of psychopathology* (pp. 181-214). Cambridge: Cambridge University Press.

Sagy, S., & Dotan, N. (2001). Coping resources of maltreated children in the family: A salutogenic approach. *Child Abuse and Neglect*, 25, 1463−1480.

Schneiderman N. Pathophysiology in animals. In: Dembroski TM, Schmidt TH, Blümhen G, editors. Biobehavioral Bases of Coronary Heart Disease. Basel: Karger; 1983. pp. 304–364.

Schneiderman, N., Antoni, M.H., Saab, P.G., & Ironson, G. (2001). Psychosocial and bio-behavioral aspects of chronic disease management. Annual Review of Psychology, 52 (1), 555-580. doi: 10.1146/annurev.psych.52.1.555

Schneiderman, N., Ironson, G., & Siegel, S.D. (2008, October). Stress and health: Psychological behavioral and biological determinants. *Annual Review of Clinical Psychology, 1*, 607-628. doi: 10.1146/annurev.clinpsy.1.102803.144141

School of Psychology University of New England. (2000). *Non-experimental designs*. Retrieved from http://www.une.edu.au/WebStat/unit_materials/c2_research_design/design_nonexperimental.htm

Scott, A.J., & Wild, C.J. (1986, February). Fitting logistic models under case-control or choice based sampling. *Journal of the Royal Statistical Society Series B Methodological, 48*(2), 170 - 182.

Serkan, H., Daniela, S., Nicolas, R., & Wolf, O.T. (2012, January). Stress-induced cortisol level elevations are associated with reduced negative affect after stress: Indications for a mood-buffering cortisol effect. *Psychosomatic Medicine, 74*(1), 23-32. doi:10.1097/PSY.0b013e31823a4a25

Shonk, S. M., & Cicchetti, D. (2001). Maltreatment, competency deficits, and risk for academic and behavioral adjustment. Developmental Psychology, 37, 3−17.

Spangler, N.W., Koesten, J., Fox, M.H., & Radel, J. (2012, November). Employer perceptions of stress and resilience intervention. *Journal of Occupational & Environmental Medicine, 54*(11), 1421-1429. doi:10.1097/JOM.0b013e3182619038

Speck, R. (2003). Social network intervention. In G.P. Sholevar & L.D. Schwoeri (Eds.), Textbook of family and couples therapy (pp. 193–201). Washington, DC: American Psychiatric Press.

Srivastava, S. (2014). *Measuring the big five personality factors.* Retrieved March 31, 2014 from http://psdlab.uoregon.edu/bigfive.html.

Stangor, C. (2012). *Introduction to psychology - Chapter 2*. Washington, DC: Flat World Knowledge.

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

Story, L. B., & Bradbury, T. N. (2004). Understanding marriage and stress: Essential questions and challenges. *Clinical Psychology Review, 23,* 1139–1162. doi:10.1016/j.cpr.2003.10.002

Stucki, B.R., & Mulvey, J. (2000). *Can aging baby boomers avoid the nursing home: Long-term care insurance for aging in place.* Executive Summary. Washington, DC: American Council of Life Insurers.

Tabachnick, B. G. & Fidell, L. S. (2012). *Using multivariate statistics* (6th ed.). Boston, MA: Pearson.

Taylor, J. (2102). *Personal growth: Your values, your life*. Retrieved from http://www.psychologytoday.com/blog/the-power-prime/201205/personal-growth-your-values-your-life

Tedeschi, R.G., Park, C.L., & Calhoun L.G. (1998). Posttraumatic growth; Conceptual issues. In R.G. Tedeschi, C.L. Park, & L.G. Calhoun (Eds.), *Posttraumatic*

growth: Positive changes in the aftermath of crisis (pp. 1-22). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Trochim, W.M. (2006). *The research methods knowledge base* (2nd ed.). Retrieved from http://www.socialresearchmethods.net/kb/qualval.htm

Tugade, M.M., Fredrickson, B.L., & Barrett, L.F. (2004, December). Psychological resilience and positive emotional granularity: Examining benefits of positive emotions on coping and health. *Journal of Personality, 72*(6), 1161-1190. doi:10.1111/j.1467-6494.2004.00294.x

University of Indiana. (2013). *Statistical conclusion validity*. Retrieved from http://www.indiana.edu/~clcl/Q560/Lecture_3/Validity.pdf

Updegraff, J. A., & Taylor, S. E. (2000). From vulnerability to growth: Positive and negative effects of stressful life events. In J. H. Harvey & E. Miller (Eds.), Loss and trauma: General and close relationship perspectives (pp. 3-28). Philadelphia: Brunner-Routledge.

Villanova University. (2013). *Statistical power and effect size*. Retrieved from http://www83.homepage.villanova.edu/richard.jacobs/EDU%208603/lessons/stastical%20power.html

Vittengl, J.R., Clark, L.A., & Jarrett, R.B. (2004, May). Improvement in social-interpersonal functioning after cognitive therapy for recurrent depression. *American Psychological Association, 34*(4), 643-658. doi:10.1017/S0033291703001478

Wagnild, G.M. & Young, H.M. (1993). *The resilience scale*. Retrieved from http://www.resiliencescale.com/index.html

Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the resilience scale. *Journal of Nursing Measurement*, 1, 165-178.

Walsh, F. (2007). Traumatic loss and major disasters: Strengthening family and community resilience. *Family Process, 46*(2), 207-227. Retrieved from http://www.familyprocess.org

Walsh, F. (2004, July). The concept of family resilience: Crisis and challenge. *Family Process, 35*(3), 261-281. doi:10.1111/j.1545-5300.1996.00261.x

Walsh, F. (2002, April). A family resilience framework: Innovative practice applications. *Family Relations, 51*(2), 130-137. Retrieved from http://www.jstor.org/stable/i370932

Weigold, I.K., Porfeli, E.J., & Weigold, A. (2013, December). Examining tenets of personal growth initiative using the personal growth initiative scale-II. *Psychological Assessment, 25*(4), 1396-1403. doi:10.1037/a0034104

Weisstein, E.W. (2013). *Catalan's Constant Continued Fraction.* Retrieved from MathWorld--A Wolfram Web Resource. http://mathworld.wolfram.com/CatalansConstantContinuedFraction.html

Weston, K. (1991). *Families we choose: Lesbians, gays, and kinship*. New York, NY: Columbia University Press.

Woods, N.F., & Lewis, F.M. (1995, Spring). Women with chronic illness: Their views of their families' adaptation. *Health Care for Women International, 16*(2), 135-148. doi:10.1080/07399339509516165

Youssef, C.M., & Luthans, F. (2007). Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. *Journal of Management*, *33*(5), 774-800.

Appendix A: Consent Form

EVALUATING PSYCHOLOGICAL RESILIENCE AND HOW IT AFFECTS PERSONAL GROWTH IN CAREGIVERS OF MULTIPLE SCLEROSIS PATIENTS

You are invited to participate in a study that evaluates the relationship between psychological resilience and personal growth for caregivers of Multiple Sclerosis (MS) patients. Your invitation to participate in this research study is because you fall within the inclusion category of being married to a MS patient and are currently providing care for your spouse, and 18 years of age or older. Please read this form and feel free to ask any question to the researcher before making your decision to participate in the study. The study is being conducted by Marisa Diaz, a doctoral candidate at Walden University.

Purpose of Research

The purpose of this study is to evaluate the relationship between psychological resilience and personal growth with spousal caregivers of a patient diagnosed with MS, to see if there is a positive correlation.

Procedures

Once you agree to participate in the study you will be asked to complete a demographics questionnaire, followed by four surveys. The total time should take 20-30 minutes to complete.

Voluntary Nature of the Study

Your participation in this research study is entirely voluntary. It is the choice of the participant whether to participate or not and you are free to discontinue from the study at any time. You may change your mind later and stop participating, and this will not affect your current status or relationship with any MS centers.

Risks

There are some potential risks to participating in the study other than the time it will take to complete the questionnaires. Some participants may experience some increased distress and may discontinue at any point in the research study. Any participants requiring immediate referral to a counselor, the local MS Centers contact information will be provided at the conclusion of the study. For those who choose to discontinue the study prior to completion a link will be provided with the local MS Centers contact information.

Benefits

By participating in the study, the participant is providing valuable research that could provide information to professionals creating interventions for spouses and patients. This information could contribute to the current research and help spouses, and other caregivers to improve their quality of life and personal growth.

Compensation
There will be no compensation to participate in this study.

Confidentiality
All information will be kept confidential. The research records will be kept in a locked cabinet, and only the researcher will have access. There will be no need for the participant to sign their name or give personal identifying information. The completion of the study by the participant, implied consent will be taken. Please feel free to print this consent to retain a copy for your records. Walden University's approval number for this study is **10-01-14-0181935** and it expires on **September 30, 2015**.

Contact Information
Researcher
Marisa Diaz
Marisa.diaz@waldenu.edu

Walden representative whom you can contact with any questions regarding your rights as a participant:
Dr. Leilani Endicott
IRB Chair
Phone# 612-312-1210
Email: irb@waldenu.edu

Statement of Consent

I have read the foregoing information. I have had the opportunity to ask any questions to the researcher and have received answers to my satisfaction. I consent voluntarily to participate in this study. The completion of this study implies my consent.

Your participation in this study is greatly appreciated.

Appendix B: Personal Growth Initiative Scale

Using the scale below, circle the number which best describes the extent to which you agree or disagree with each statement.

1 = Definitely disagree

2 = Mostly disagree

3 = Somewhat disagree

4 = Somewhat agree

5 = Mostly agree

6 = Definitely agree

1. I know how to change specific things that I want to change in my life. 1 2 3 4 5 6

2. I have a good sense of where I am headed in my life. 1 2 3 4 5 6

3. If I want to change something in my life, I initiate the transition process. 1 2 3 4 5 6

4. I can choose the role that I want to have in a group. 1 2 3 4 5 6

5. I know what I need to do to get started toward reaching my goals. 1 2 3 4 5 6

6. I have a specific action plan to help me reach my goals. 1 2 3 4 5 6

7. I take charge of my life. 1 2 3 4 5 6

8. I know what my unique contribution to the world might be. 1 2 3 4 5 6

9. I have a plan for making my life more balanced. 1 2 3 4 5 6

Appendix C: The Resilience Scale

Please read the following statements. To the right of each you will find seven numbers, ranging from "1" (Strongly Disagree) on the left to "7" (Strongly Agree) on the right. Click the circle below the number which best indicates your feelings about that statement. For example, if you strongly disagree with a statement, click "1". If you are neutral, click "4", and if you strongly agree, click "7", etc.

	Strongly Disagree Strongly Agree
1. When I make plans, I follow through with them.	1 2 3 4 5 6 7
2. I usually manage one way or another.	1 2 3 4 5 6 7
3. I am able to depend on myself more than anyone else.	1 2 3 4 5 6 7
4. Keeping interested in things is important to me.	1 2 3 4 5 6 7
5. I can be on my own if I have to.	1 2 3 4 5 6 7
6. I feel proud that I have accomplished things in life.	1 2 3 4 5 6 7
7. I usually take things in stride.	1 2 3 4 5 6 7
8. I am friends with myself.	1 2 3 4 5 6 7
9. I feel that I can handle many things at a time.	1 2 3 4 5 6 7
10. I am determined.	1 2 3 4 5 6 7
11. I seldom wonder what the point of it all is.	1 2 3 4 5 6 7
12. I take things one day at a time.	1 2 3 4 5 6 7
13. I can get through difficult times because I’ve experienced difficulty before.	1 2 3 4 5 6 7
14. I have self-discipline.	1 2 3 4 5 6 7
15. I keep interested in things.	1 2 3 4 5 6 7
16. I can usually find something to laugh about.	1 2 3 4 5 6 7

17. My belief in myself gets me through hard times. 1 2 3 4 5 6 7

18. In an emergency, I'm someone people can generally rely on. 1 2 3 4 5 6 7

19. I can usually look at a situation in a number of ways. 1 2 3 4 5 6 7

20. Sometimes I make myself do things whether I want to or not. 1 2 3 4 5 6 7

21. My life has meaning. 1 2 3 4 5 6 7

22. I do not dwell on things that I can't do anything about. 1 2 3 4 5 6 7

23. When I'm in a difficult situation, I can usually find my way out of it. 1 2 3 4 5 6 7

24. I have enough energy to do what I have to do. 1 2 3 4 5 6 7

25. It’s okay if there are people who don't like me. 1 2 3 4 5 6 7

Appendix D: The Satisfaction with Life Scale

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

1 = Strongly Disagree

2 = Disagree

3 = Slightly Disagree

4 = Neither Agree or Disagree

5 = Slightly Agree

6 = Agree

7 = Strongly Agree

______ 1. In most ways, my life is close to my ideal.

______ 2. The conditions of my life are excellent.

______ 3. I am satisfied with life.

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

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

Appendix E: ENRICH Marital Satisfaction Scale (EMS)

DIRECTIONS: Below are fifteen statements with which you may agree or disagree. Using the 1-5 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree

2 = Moderately Disagree

3 = Neither Agree or Disagree

4 = Moderately Agree

5 = Strongly Agree

____ 1. My partner and I understand each other perfectly.
____ 2. I am not pleased with the personality characteristics and personal habits of my partner.
____ 3. I am very happy with how we handle role responsibilities in our marriage.
____ 4. My partner completely understands and sympathizes with my every mood.
____ 5. I am not happy about our communication and feel my partner does not understand me.
____ 6. Our relationship is a perfect success.
____ 7. I am very happy about how we make decisions and resolve conflicts.
____ 8. I am unhappy about our financial position and the way we make financial decisions.
____ 9. I have some needs that are not being met by our relationship.
____ 10. I am very happy with how we manage our leisure activities and the time we spend together.
____ 11. I am very pleased about how we express affection and relate sexually.
____ 12. I am not satisfied with the way we each handle our responsibilities as parents.
____ 13. I have never regretted my relationship with my partner, not even for a moment.
____ 14. I am dissatisfied about our relationship with my parents, in-laws, and/or friends.
____ 15. I feel very good about how we each practice our religious beliefs and values.

Appendix F: Demographics Questionnaire

Please complete the demographic survey. It is important that you answer each question carefully and honestly. There will be no personal information revealed in the study results.

1) AGE _______

2) Gender: MALE _______ FEMALE _______ (if you are pregnant please

   check here: _____)

3) Ethnicity: WHITE ________ ASIAN ________

   HISPANIC, LATINO, OR SPANISH ORIGIN _______ BLACK OR AFRICAN AMERICAN ________

   AMERICAN INDIAN OR ALASKA NATIVE ________ NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER _______ SOME OTHER RACE_______

4) Education Level: GRAMMAR SCHOOL ________ HIGHSCHOOL OR GED ________

   VOCATIONAL _______ SOME COLLEGE ________

   BACHELOR'S DEGREE _______ MASTER'S DEGREE _______

   DOCTORAL DEGREE _______ PROFESSIONAL DEGREE _______ OTHER ______

5) Number of marriages: _______

6) Duration of marriage: _______

7) How long has your spouse been diagnosed with Multiple Sclerosis: _______

8) How many children do you have: _______

9) What is your current health status:
   Chronic Disease: DIABETES _______ HEART DISEASE _______

ASTHMA _______ OTHER _______

Injury: ________ the TYPE: ________
Behavioral Factors: OBESITY _______ SMOKING _______ ALCOHOL _______

Cancer _______ the TYPE _______

10) What is your employment status:
Employed _______ TITLE ________

Unemployed _______How long _______

Homemaker ________Student _______ Retired _______ Other _______

11) Have you taken part in an intervention, to help you cope with becoming a caregiver?
YES _______ NO_______

Appendix G: RS Permission

This Intellectual Property License Agreement ("Agreement") is made and effective this 6 September 2013 ("Effective") by and between The Resilience Center, PLLP ("Licensor") and Marisa Pina ("Licensee").

Licensor has developed, and licenses to users its Intellectual Property, marketed under the names "the Resilience Scale", "RS", the 14-item Resilience Scale", and "the RS-14" (the "Intellectual Property").

Licensee desires to use the Intellectual Property.

Now, therefore, in consideration of the mutual promises set forth herein, Licensor and Licensee agree as follows:

1. License.

   Licensor hereby grants to Licensee a 1-year, non-exclusive, limited license to use the Intellectual Property as set forth in this Agreement.
2. Restrictions.

   Licensee shall not modify, license or sublicense the Intellectual Property, or transfer or convey the Intellectual Property or any right in the Intellectual Property to anyone else without the prior written consent of Licensor. Licensee may make sufficient copies of the Intellectual Property and the related Scoring Sheets to measure the individual resilience of an unlimited number of subjects, for non-commercial purposes only.
3. Fee.

   In consideration for the grant of the license and the use of the intellectual Property, subject to the Restrictions above, Licensee agrees to pay Licensor the sum of US $50.
4. Term.

   This license is valid for twelve months, starting at midnight on the Effective Date.
5. Termination.

   The license will terminate at midnight on the date twelve months after the Effective Date.
6. Warranty of Title.

   Licensor hereby represents and warrants to Licensee that Licensor is the owner of the Intellectual Property or otherwise has the right to grant to Licensee the rights set forth in this Agreement. In the event any breach or threatened breach of the foregoing representation and warranty, Licensee's sole remedy shall be to require Licensor to do one of the following: i) procure, at Licensor's expense, the right to use the Intellectual Property, ii)replace the Intellectual Property or any part thereof that is in breach and replace it with Intellectual Property of comparable functionality that does not cause any breach, or iii) refund to Licensee the full amount of the license fee upon the return of the Intellectual Property and all copies thereof to Licensor.
7. Warranty of Functionality.

Licensor provides to Licensee the Intellectual Property “as is” with no direct or implied warranty.

8. Payment,

   Any payment shall be made in full prior to shipment. Any other amount owed by Licensee to Licensor pursuant to their Agreement shall be paid within thirty (30) day following invoice from Licensor. In the event any overdue amount owed by Licensee is not paid following ten (10) days written notice from Licensor, then in addition to any other amount due, Licensor may impose and Licensee shall pay a late payment charge at the rate of one percent (1%) per month on any overdue amount.

9. Taxes.

   In addition to all other amounts due hereunder, Licensee shall also pay to Licensor, or reimburse Licensor as appropriate, all amounts due for tax on the Intellectual Property that are measured directly by payments made by Licensee to Licensor. In no event shall Licensee be obligated to pay any tax paid on the income of Licensor or paid for Licensor’s privilege of doing business.

10. Warranty Disclaimer.

    LICENSOR’S WARRANTIES SET FORTH IN THIS AGREEMENT ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

11. Limitation of Liability.

    Licensor shall not be responsible for, and shall not pay, any amount of incidental, consequential or other indirect damages, whether based on lost revenue or otherwise, regardless of whether Licensor was advised of the possibility of such losses in advance. In no even shall Licensor’s liability hereunder exceed the amount of license fees paid by Licensee, regardless of whether Licensee’s claim is based on contract, tort, strict liability, product liability, or otherwise.

12. Support.

    Licensor agrees to provide limited, email-only support for issues and questions raised by the Licensee that are not answered in the current version of the Resilience Scale User’s Guide, available on www.resiliencescale.com, Limited to the Term of this Agreement. Licensor will determine which issues and questions are or are not answered in the current User’s Guide.

13. Notice.

    Any notice required by this Agreement or given in connection with it, shall be in writing and shall be given to the appropriate party by personal delivery or by certified mail, postage prepaid, or recognized overnight delivery services.
    If to Licensor:
    The Resilience Center, PLLC
    PO Box 313
    Worden, MT 59088-0313

If to Licensee:
Name: Marisa Pina

14. Governing Law.
    This Agreement shall be construed and enforced in accordance with the laws of the United States and the state of Montana. Licensee expressly consents to the exclusive forum, jurisdiction, and venue of the Courts of the State of Montana and the United States District Court for the District of Montana in any and all actions, disputes, or controversies relating to this Agreement.
15. No Assignment.
    Neither this Agreement nor any interest in this Agreement may be assigned by Licensee without the prior express written approval of Licensor.
16. Final Agreement.
    This Agreement terminates and supersedes all prior understandings or agreements on the subject matter hereof. This Agreement may be modified only by a further writing that is duly executed by both Parties.
17. Severability.
    If any term of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, then this Agreement, including all of the remaining terms, will remain in full force and effect as if such invalid or unenforceable term had never been included.
18. Heading.
    Headings used in this Agreement are provided for convenience only ad shall not be used to construe meaning or intent.

IN WITNESS WHEREOF, THE Parties hereto have duly caused this agreement to be executed in its name on its behalf, all as of the day and year first above written.

Licensee
Printed Name: Marisa Pina
Title: Student
Date: 3 September 2013

The Resilience Center, PLLP
Gail M. Wagnild, PhD
Owner and CEO
3 September 2013

Appendix H: PGIS Permission

The PGIS is in the public domain available to be used without author permission. Some examples of appropriate use would be for measuring treatment outcomes, determining change in level of PGI over time, and relationship to other known measures (e.g., the Ryff Scales of Psychological Well-Being). There is no charge to use the PGIS, and you cannot charge others to use it.

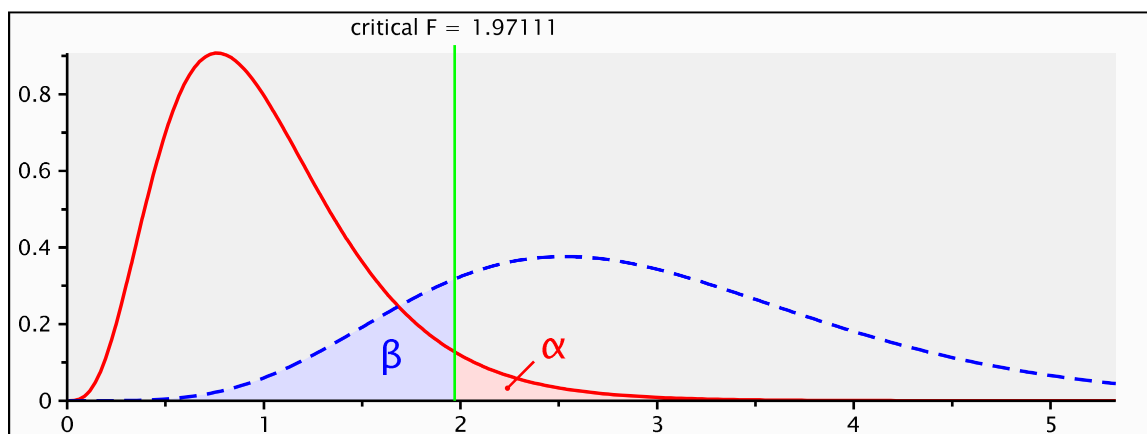
Appendix I: SWLS Permission

The scale is copyrighted but you are free to use it without permission or charge by all professionals (researchers and practitioners) as long as you give credit to the authors of the scale: Ed Diener, Robert A. Emmons, Randy J. Larsen and Sharon Griffin as noted in the 1985 article in the *Journal of Personality Assessment*.

Appendix J: EMS Permission

The scale is copyrighted but you are free to use it without permission or charge by all professionals (researchers and practitioners) as long as you give credit to the authors of the scale: Blaine J. Fowers and David H. Olson as noted in the 1993 article in the *Journal of Family Psychology*.

Appendix K: Linear Multiple Regression Fixed Model



F tests – Linear multiple regression: Fixed model, R^2 deviation from zero

Analysis:	A priori: Compute required sample size		
Input:	Effect size f^2	=	0.15
	α err prob	=	0.05
	Power (1–β err prob)	=	0.80
	Number of predictors	=	9
Output:	Noncentrality parameter λ	=	17.1000000
	Critical F	=	1.9711129
	Numerator df	=	9
	Denominator df	=	104
	Total sample size	=	114
	Actual power	=	0.8043554