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Enhancing Quality of Life: The Effects of Positive Cognitions

Claudine Antoniette Gerald
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Walden University

College of Social and Behavioral Sciences

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Walden University
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Abstract

Enhancing Quality of Life:
The Effects of Positive Cognitions

by

Claudine Antoniette Gerald

M.S., Walden University, 2009

B.S., Florida Atlantic University, 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

The purpose of this study was to test the nature of the relationship among cognitive factors to determine quality of life in a sample of 180 adult internet users. Theories of the positive psychology paradigm, salutogenesis, dynamic equilibrium model, family systems, and family resilience theories were the bases for examining the relative significance of the cognitive factors, positive illusions, optimism, perception of control, meaning in life, resilience, and sense of coherence to the development of quality of life. Factor analysis revealed the order of significance of these variables from the most influential to least influential: sense of coherence, meaning in life, positive illusions, perception of control, resilience, and optimism. Stepwise multiple regression analysis indicated that positive illusions have a negative influence on quality of life $\beta=-0.198$, $t=-2.36$, $F=5.58$, $p=0.02$. Standard multiple regression analysis indicated that these cognitive factors do not significantly contribute to quality of life when grouped together. These findings corroborate current research that cognitive factors do not work alone in enhancing quality of life and there must be a balance along factors on other levels, such as psychological, physiological, behavioral, and sociocultural to enhance quality of life. Social change may be influenced by this study's unique and exclusive emphasis on the effects of cognitive factors, demonstrating the relative significance of these cognitive factors, individually and combined, for the promotion of quality of life. This study has filled two research gaps because positive cognitions had not been studied together and the association between positive illusions and the known quality of life promoting cognitive factors needed clarification.

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Table of Contents

List of Tables	v
Chapter 1	1
Introduction.....	1
Background.....	2
Problem Statement.....	4
Purpose of the Study	6
Research Questions and Hypotheses	6
Theoretical Framework.....	8
Nature of the Study.....	10
Definitions.....	11
Assumptions.....	14
Scope and Delimitations	14
Limitations	15
Significance.....	16
Summary.....	17
Chapter 2.....	19
Introduction.....	19
Literature Search Strategy.....	19
Theoretical Foundation	21
Coping.....	22
Problem-focused and emotion-focused coping.....	23
Stress	24
Successful and unsuccessful coping	26

Outcome	28
Optimism and Self-Enhancement	28
Expectations	29
Optimism and Pessimism.....	29
Self-regulation.....	30
Personal achievements	31
Optimism and Well-Being	32
Optimism and Illusions	34
Resilience	35
Sense of Coherence.....	37
Meaning in Life.....	38
Perception of Control	41
Positive Illusions.....	43
Research Strengths and Weaknesses	44
Summary and Conclusions	45
Chapter 3	47
Introduction.....	47
Research Design and Rationale	48
Methodology.....	49
Population	49
Sample and Sampling Procedures.....	49
Procedures for Recruitment, Participation, and Data Collection	50
Instrumentation of Constructs.....	51

Operationalization of Constructs	55
Data Analysis Plan.....	56
Threats to Validity	58
Ethical Procedures	58
Summary	59
Chapter 4	60
Introduction.....	60
Data Collection	62
Demographic Profile of Participants.....	63
Results.....	64
Descriptive and Inferential Statistics for the Sample	66
Research Question One: Predicting the Individual Value	69
Research Question Two: Predicting the Inclusion of Positive Illusions.....	72
Research Question Three: Predicting the Collective Value.....	73
Summary	74
Chapter 5.....	77
Introduction.....	77
Interpretation of Findings	79
Limitations of the Study.....	83
Recommendations.....	84
Implications for Positive Social Change.....	86
Value to the research community	86
Value to individuals	86

Cognitive factors in nature.....	87
Recommendations for practice	88
Conclusions.....	88
References.....	93
Appendix A: Statement of Consent	108
Appendix B: Demographic Scale.....	110
Appendix C: Brief-COPE Inventory.....	111
Appendix D: Positive Generalizations (POG) Scale	113
Appendix E: Life Oriented Test-Revised (LOT-R).....	115
Appendix F: Family Coping Coherence Index	116
Appendix G: Family Hardiness Index	117
Appendix H: Family Crisis Oriented Personal Evaluation (F-COPES)	119
Appendix I: Rotter’s Internal-External Control of Reinforcement Scale	121

List of Tables

Table 1. Demographics	64
Table 2. Frequency distribution values for each variable	65
Table 3. Mean and standard deviation for central tendency	66
Table 4. Frequency and percent of sharing difficulties with relatives	67
Table 5. Seeking support and encouragement from friends	67
Table 6. Knowing the family has power to solve major difficulties.....	67
Table 7. Accepting counsel from other families with the same or similar problem.....	68
Table 8. Unpleasant incidences balanced by the good	68
Table 9. Best expectations even in uncertain times	68
Table 10. Accepting stressful events as a fact of life.....	68
Table 11. Accepting that difficulties occur unexpectedly	69
Table 12. Defining family problems positively to prevent discouragement.....	69
Table 13. Faith in God as a source of encouragement.....	69
Table 14. Correlations and significance values for variables	71
Table 15. Regression coefficients associated with stepwise multiple regression.....	72
Table 16. Loadings on each variable per component	73
Table 17. Regression coefficients associated with standard multiple regression	74

Chapter 1: Introduction

The value of nonpaid home care was \$450 billion in 2011, exceeding the economic value of paid home care (AARP Public Policy Institute, 2011). Although caregivers provide indispensable care for individuals and the family as a unit, these individuals are known to experience stressors which may lead to decreased quality of life and maladjustments in many areas of living (Majerovitz, Mollot, & Rudder, 2009; Sarenmalm, Browall, Persson, Fall-Dickson, & Gaston-Johansson, 2013). Family stressors, such as sickness, are likely to undermine the stability of the family with immeasurable loss to the caregiver (Bainbridge, Krueger, Lohfield, & Brazil, 2009).

Factors which improve the quality of life of caregivers are as relevant to the present and future society, as they had been in the past, with an emphasis on the reduction of depression, burnout, and poor health (Takai et al., 2009; Välimäki, Vehviläinen-Julkumen, Pietilä, & Pirttilä, 2009). Quality of life may be influenced through cognitive biases, an expression that was borrowed from the field of social psychology. A cognitive bias is a mind over matter quality that influences the way individuals think and reason about life. Cognitive biases which have a positive influence on quality of life are called positive cognitions (Zauszniewski, Bekhet, & Suresky, 2009).

The improvement of quality of life is paramount in many lives. The present study was established due to concerns associated with the reduction or alleviation of stress, with the ultimate goal of enhancing quality of life through cognitive factors. Optimism has been described as a mediator in the enhancement of the quality of life in conjunction with other constructs, resilience, sense of coherence, perception of control, and meaning found in life (Ho, Cheung, & Cheung, 2010). Positive illusions may also be a cognitive factor

that has a positive effect on quality of life (Young, 2014). The present study needed to be conducted to raise awareness on the relative significance of cognitive factors, individually, and combined for the promotion of quality of life.

Background

The family unit provides a bond which makes the family stronger, especially during critical illness periods (Eggenberger, Meiers, Krumwiede, Bliesmer, & Earle, 2011). However, caring for the ill is taxing physically, psychologically, emotionally, and also requires exorbitant financial investment (AARP Public Policy Institute, 2011). Takai et al. (2009) found that higher levels of burnout were significantly related to higher levels of depressive symptoms and lower quality of life. Caregivers commonly experience overwhelming burdens and report feelings of isolation and a loss of freedom, which have become major life obstacles (Majerovitz et al., 2009). Caregivers also report a need to re-establish their former lives, especially regarding relationships which have been broken. Caregivers have expressed regret and guilt regarding the nature of the relationship with the care recipient, mourning the loss of specific aspects of the former relationship with the care recipient, due to the intervening illness (Majerovitz et al., 2009).

Some individuals experience growth in spite of the intervening crisis. The individual's ability to adapt determines the capacity to endure during these stressful caregiving events. Through an individual, or even through a collective sense of coherence, individuals transform potential resources into actuality, which serves to improve the quality of life through the adaptation of more efficient coping styles (Sarenmalm et al., 2013). A sense of coherence is shaped, reinforced, and refined throughout an individual's life. Individuals who emerge with a stronger sense of

coherence do so with the implementation of enhanced coping skills (Sarenmalm et al., 2013). Sense of coherence is also associated with bolstered subjective well-being and improved health outcome (Apers, Luyckx, Rassart, Goosens, & Budts, 2013; He, Cao, Feng, Guan, & Peng, 2013).

A sense of coherence includes self-efficacy (Antonovsky, 1998). Self-efficacy is a personal agent that provides motivation toward action and achieving personal goals due to one's beliefs in one's capabilities (Bandura, 1997). Self-efficacy influences the amount of effort expended toward attaining a personal goal and resilience following adversity. Self-efficacy and resilience are reflected in how long one might endure obstacles, how one manages or copes with failures and the amount of stress experienced when feeling overwhelmed (Antonovsky, 1998).

Self-efficacy is associated with the perception of control, influencing thought patterns that may or may not be self-enhancing, ultimately influencing the outcome of one's goals and accomplishments. Bandura (1997) theorized that an individual realizes desired futures when they have assumed some measure of control. Conversely, an individual experiences feelings of apprehension, apathy, or despair when there is no perceived control over adverse life events (Bandura, 1997). The perception of control is associated with optimism, defined by the expectation of reduction of undesired outcomes, and an increase in favorable outcomes (Bandura, 1997).

Cognitive factors help to develop coherence in burdened families who search for meaning in life (Sarenmalm et al., 2013). The meanings a family engenders are often reconstructed after the experience of chronic stress. Sense of coherence is a cognitive factor which helps to give life meaning when families are exposed to challenges and

crises. The result may lead to gains which strengthen the family through increases in cohesion and adaptation (Sarenmalm et al., 2013).

Optimism relates to meaning in life, impacting subjective well-being through hope, sense of coherence, and purpose in life. Optimism fosters achievement of one's goals (Ho et al., 2010). Feelings of satisfaction and self-fulfillment ensue once these goals are actualized (Ho et al., 2010). Optimism promotes a subjective sense of well-being, and induces a heightened power of functioning, due to more effective problem-focused coping and emotional self-regulation strategies (Ho et al., 2010).

The improvement of quality of life is a significant goal within and outside the scientific sphere. Cognitive factors are an integral aspect of intrapersonal and interpersonal life, deserving recognition among the factors that contribute to quality of life (Zauszniewski et al., 2009). A gap exists in literature whereby the cognitive factors which have been associated with the advancement of quality of life have not been studied together and there is no established connection between positive illusions and the known quality of life promoting cognitive factors. The scientific community may benefit from research which has an exclusive focus on the effect of cognitive factors in the enhancement of quality of life.

Problem Statement

The research problem addressed in this study was determining the significance of cognitive factors for quality of life enhancement in adult internet users, with a focus on caregivers. Science continues the process of critically reviewing and assessing past research to determine factors that enhance the human condition and advance the quality of life. Cognitive factors, such as sense of coherence, have been identified as quality of

life promoting entities (Sarenmalm et al., 2013). The relationship between these cognitive factors and the concept of positive illusions has been under study for over 20 years.

The field of psychology has traditionally fostered the ideology that illusions are associated with mental illness, since illusions counteract the accuracy of perceptions needed to facilitate meaningful living (Vincze, 2011). Bandura (1997) found that errors may occur in efficacy judgment because of faulty self-knowledge, inadequate or incomplete scope of self-efficacy assessment, faulty evaluations, and use of past experiences. Faulty self-knowledge is identified when personal factors distort the self-appraisal process. Inadequate or incomplete scope of self-efficacy assessment, leads to faulty or inadequate performance (Bandura, 1997). When illusions are balanced, and these illusions are not allowed to run rampant, negative results may be averted (Neckar, 2013). Illusions which have a positive effect on life have been labelled positive illusions (Young, 2014).

Cognitive factors are important in changes in mindset, or the reframing of the thought processes. Crises may no longer seem insurmountable when one is not threatened by adversity. Individuals who confidently focus on mastery are more likely to succeed, when compared to individuals who harbor negative perceptions (Littman-Ovadia & Nir, 2014). An example of this is seen among firefighters who have faced traumatic events. Firefighters have been strengthened by cognitive factors which have served to lessen the severity of a problem and maintain homeostatic balance (Lee, Ahn, Jeong, Chae, & Choi, 2014).

The task of establishing the cognitive factors which enhance quality of life is of continuous importance to the research community. Two gaps in literature have been

observed. There has been no known report on how cognitive factors compare to each other in the advancement of quality of life. There has not yet been proper justification for the addition of the positive illusions construct to the list of cognitive factors which promote quality of life.

Purpose of the Study

The purpose of this study was to quantitatively analyze the promotion of quality of life as the dependent variable with the independent variables, optimism, resilience, sense of coherence, perception of control, meaning found in life, and positive illusions. Caregivers, who are trying to overcome stress and strain, may employ certain levels of self-deception to bring hope in the midst of crises. This self-deception was recognized in this study as positive illusions. Optimism, sense of coherence, perception of control, meaning in life, and resilience enhance quality of life. However, they may also be influenced by some measure of self-deception. This study has been designed to test the significance of this self-deception, to determine whether positive illusions contribute to the influence of other cognitive factors on the quality of life.

Research Questions and Hypotheses

This study contained three research questions. Research question one was addressed using stepwise multiple regression analysis. Research question two was assessed using factor analysis, and research question three was evaluated using standard multiple regression analysis.

1. What is the relative significance or contribution for the variables, positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence in predicting quality of life?

H₀1: There is no significant correlation between the independent variables (i.e., positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence) and the prediction of quality of life.

H_A1: There is a significant correlation between all or some of the independent variables (i.e., positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence) and the prediction of quality of life.

2. Can positive illusions be included among the list of significant cognitive factors which advance quality of life?

H₀2: Positive illusions cannot be included among the list of significant cognitive factors which advance quality of life.

H_A2: Positive illusions can be included among the list of significant cognitive factors which advance quality of life.

3. Research question three was designed to test the overall significance of six cognitive factors in the enhancement of quality of life using standard multiple regression analysis.

H₀3: The model consisting of optimism, resilience, sense of coherence, meaning in life, perception of control, and positive illusions does not predict the advancement of quality of life.

H_A3: The model consisting of optimism, resilience, sense of coherence, meaning in life, perception of control, and positive illusions predicts the advancement of quality of life.

The independent variables for the three research questions were positive illusions, optimism, meaning in life, sense of coherence, resilience, and perception of control.

Quality of life was the dependent variable. Positive illusions were measured through the Positive Generalization questionnaire (University of Miami, n.d.). Optimism was measured by the Life Orientation Test-Revised (University of Miami, n.d.), meaning in life by the Family Crisis Oriented Personal Evaluation survey (McCubbin, Thompson, & McCubbin, 1996), sense of coherence through the Family Coping-Coherence instrument (McCubbin et al., 1996), resilience through the Family Hardiness survey (McCubbin et al., 1996), and perception of control by the Rotter's Internal-External Control of Reinforcement survey (Rotter, 1960). Quality of life was assessed through the Brief-COPE questionnaire (University of Miami, n.d.).

Theoretical Framework

The theories of salutogenesis, the dynamic equilibrium model, the family systems theory, and the family resilience theory guided this study, due to the focus on factors which significantly enhance the quality of life. In addition to these theories, the learned helplessness theory has been employed for decades to describe the manner through which individuals cope with adversity (Seligman & Maier, 1967). A discussion of these theories will reoccur in Chapter 2.

The learned helplessness theory states past experiences, which have been perceived as uncontrollable, insoluble, and inescapable, may create vulnerability to depression due to the perception of lack of skill, and may ultimately interfere with future performance (Seligman & Maier, 1967). The learned helplessness theory is effective in describing experiences with adverse life events. However, this theory focuses on illness. My study employed the theory of salutogenesis to emphasize hope and optimism (Antonovsky, 1998). Rejecting the pathogenic learned helplessness theory which is

associated with disorder, Antonovsky (1979) coined the word salutogenesis to represent an alternative perception of health, one that is based on order.

Antonovsky (1979) introduced his theory to describe a sense of coherence, beliefs in control, mastery over major life events, and a positive orientation toward psychological health. The concept of salutogenesis was created as a new perspective on health, to emphasize salutary factors, as opposed to the pathogenic approach that pervades society. Unlike the learned helplessness theory, which focuses on despair, salutogenesis is the goal to which suffering people attempt to attain, and which healthy and successful individuals try to maintain. The salutary function is associated with affective experiences (Bonanno, 2013). Resilience and optimism are examples of a few of these affective experiences. Affective experiences are further associated with personality, cognition, emotion regulation, and other concomitants in psychological, as well as physiological disease (Bonanno, 2013). Working from within, salutogenesis can influence health outcome.

Salutogenesis is maintained through internal and external forces, supporting the theories of Folkman and Lazarus (1980). Folkman and Lazarus (1980) stated that coping results from either an attempt to change the nature of the stressor, or an attempt to alter the situations the stressor has created. Salutogenesis is an important goal for each individual.

The dynamic equilibrium model explains the disruption of the body's homeostatic balance. Homeostasis is an expression that has been borrowed from the biological sciences to describe a system's ability to maintain and restore balance (Cummins & Nistico, 2002). In the biological system, the dynamic equilibrium model refers to the

restoration and maintenance of homeostasis (Cummins & Nistico, 2002). In the field of psychology, homeostasis is important to describe intrapersonal and interpersonal experiences through the restoration and maintenance of quality of life (Cummins & Nistico, 2002).

Family systems theory is relevant to this study. The family systems theory is a full systems perspective on family health experience which describes the family as a complex interrelated group that derives meaning through its interactions and interdependency between the members and their world (Eggenberger et al., 2011; Yi, 2009). The family unit is also characterized as stronger than its individual members, providing a source of empowerment to these members (Eggenberger et al., 2011). Related to family systems theory is the family resilience theory. The family resilience theory focuses on the resilience, adjustment, and adaptation of the family unit during crises. This theory also addresses internal and external sources of intrafamilial strength (Greeff, 2012).

Nature of the Study

This quantitative research study follows the positive psychology tradition, due to the focus on the positive contributors for quality of life. The theories and constructs which pervade the stress and coping literature were explored. Factor analysis, stepwise and standard multiple regression analyses were employed to appropriately address the research questions. Factor analysis was utilized to present the underlying factor structure for positive cognitions, with a special interest as to whether positive illusions are part of the factor structure embodied within positive cognitions. Stepwise multiple regression analysis determined the relative contribution of each positive cognition to the quality of

life, and standard multiple regression analysis was useful in determining the overall contribution of these positive cognitions to quality of life.

Data were collected from adult internet users, with a specific focus on both paid and unpaid caregivers. Participants were recruited through an anonymous online participation pool through Survey Monkey. There was a specific focus on screening for adults who are fluent in English.

The cumulative score of all items on the Brief-COPE questionnaire were used as the measure for quality of life. The cumulative score of all items associated with the Life Orientation Test-Revised, the Family Hardiness Index, Family Coping Coherence Index, Family Crises Oriented Personal Evaluation Scale, the Positive Generalizations Scale, and Rotter's Internal-External Control of Reinforcement instrument were used to measure values for optimism, resilience, sense of coherence, meaning in life, positive illusions, and perception of control, respectively. The scores for each variable were used to represent the respective variables and address each research question in stepwise multiple regression analysis, factor analysis and standard multiple regression analysis.

Definitions

Comparative Optimism: Comparative optimism is a self-enhancement social comparison bias in which an individual's perception of self is greater than this individual's perception of others (Hevey & French, 2012).

Dispositional Optimism: Dispositional optimism, a relatively stable construct, describes the state of generalized positive expectancy of the best outcome (Hevey & French, 2012).

Emotion-Focused Coping: Emotion-focused coping involves efforts to change the emotional impact of the problem (Monat, Lazarus, & Reevy, 2007).

Hardiness: Hardiness is also known as resilience. Hardiness consists of three factors: commitment, control, and challenge (Monat et al., 2007).

Illusion of Control: Individuals who are generally grandiose in their appraisal of control are classified as having an illusion of control (Taylor & Brown, 1988).

Locus of Control: Locus of control is also known as perception of control. This construct is associated with an individual's self-efficacy, self-concept, and self-esteem, ultimately influencing one's perspective on the actual control that one possesses over the circumstance (Bandura, 1997).

Meaning in Life: Meaning in life helps to promote well-being due to its association with having a sense of coherence (Heintzelmann & King, 2014).

Psychological Stress: Psychological stress refers to negative emotional and cognitive states that result when individuals feel powerless to adapt to their situation (Banerjee, 2012).

Positive Cognitions: Positive cognitions are positive cognitive biases and mental shortcuts associated with the improvement of quality of life or life satisfaction (Zauszniewski et al., 2009).

Positive Illusions: Positive illusions are positive self-evaluations and exaggerated perceptions of control or mastery (Taylor & Brown, 1988).

Positive Psychology: Positive psychology is the study of positive human experiences which make life worth living (Cohrs, Christie, White, & Das, 2013).

Problem-Focused Coping: Problem-focused coping involves efforts to change the stressor or the nature of the problem (Folkman & Lazarus, 1980).

Resilience: Resilience is a depiction of an individual's ability to remain stable levels of healthy psychological and physiological functioning during adverse conditions (Monat et al., 2007).

Salutogenesis: Salutogenesis is the means through which individuals find order and meaning in life (Vossler, 2012).

Sense of Coherence: Sense of coherence is the means through which individuals relate to internal and external cues by way of resilience, self-efficacy, self-esteem, comprehensibility, hardiness, manageability, and meaningfulness (Antonovsky, 1998; Bandura, 1997).

Situational Optimism: Situational optimism reflects positive expectancy of the best outcome during specific occasions and situations (Hevey & French, 2012).

Social Support: Social support is an interpersonal system which acts as a buffer to influence behavior and levels of stress or distress (Brennan & Spencer, 2012).

Subjective Well-Being: Subjective well-being reflects global life satisfaction, positive affect, and negative affect (Daukantaitė & Zukauskienė, 2012).

Unrealistic Optimism: Unrealistic optimism is a subjective concept which describes a decreased tendency to expect negative events and an increased tendency to expect positive events irrespective of the outcome (Ferrer, Klein, Zajac, Sutton-Tyrrell, Muldoon, & Kamarck, 2012).

Assumptions

Optimism, sense of coherence, meaning in life, perception of control, and resilience contribute to the quality of life. Following Taylor and Brown's (1988) study, there has been controversy regarding the theory that positive illusions, unrealistic optimism, and exaggerated self-appraisals are important for maintaining proper mental health. On the contrary, cognitive biases had already been supported. This expression has been retained, such that individuals whose perspective was inclined to be positive were described as having a positive cognitive bias (Cummins & Nistico, 2002) or positive cognition (Zauszniewski et al., 2009). This study was designed to delineate the advancement of quality of life through positive cognitions in a normal adult population, with particular focus on caregivers. The assumption was that these individuals were psychologically competent. A second assumption was that the stress and coping associated with caregiving is generalizable to adults in the general public.

Scope and Delimitations

This study was intended to recruit caregivers from the normal adult population of internet users. An open invitation was sent to adults who were at least 18 years of age with fluency in English. Each participant was asked whether they were paid or unpaid caregivers prior to being asked to detail the nature of this care. The frequency of care (e.g., daily, weekly, or monthly) was one question regarding the nature of care. Participants were tested on the levels of stress and coping as indicators of quality of life. Specific questions were also asked regarding cognitive factors that advance quality of life.

The study may be generalizable because adults attempt to manage stress and improve quality of life (Bonanno, 2013). The sample was collected through an online random sampling method. Adult internet users have not all identified themselves as caregivers. There were also two types of caregivers, paid and unpaid. The research captured a diverse set of individuals within the normal adult population.

Limitations

Participants had to be fluent in English because the questionnaire was written in English. Participants were allowed to exit the study at any time. Only one participant chose to exit the study after being asked about language fluency.

This study was also limited to those individuals who have internet access and have joined a survey program with affiliations to the online service, Survey Monkey. The Internet was chosen because it is a popular societal tool and research indicates caregivers use this tool to assess more health related information than non-caregivers (Pew Research Center, 2012).

Many instruments have been utilized within the last 20 years to measure cognitive factors. The questionnaires chosen for this study were designed by other researchers for reasons similar to this study's objectives. The instruments which provided the best approximate measures were found.

The survey was lengthy because participants were asked to complete 152 questions. One hundred and eighty participants began the questionnaire and 138 individuals completed it. Although the remaining participants skipped a few questions, they seemed to be willing to answer the questions regardless of questionnaire length.

Participants may have skipped a few questions because they were unwilling to answer the questions for other personal reasons.

Significance

This research study emphasized elements of positive psychology which enhance quality of life in family caregivers because this population is susceptible to suffering financially, emotionally, physically, and mentally. A greater number of health problems are experienced when caring for the ill (AARP Public Policy Institute, 2011). The factors which promote the quality of life are also important to paid caregivers and individuals who do not consider themselves caregivers, because stress and strain generally create biopsychosocial problems to influence quality of life (Greeff & Nolting, 2013; Oitzl, Champagne, van der Veen, & de Kloet, 2010).

Pretorius (2009) indicated that internal and external self-enhancing properties enrich quality of life. These internal self-enhancing properties may be cognitive (Bonanno, 2013). Internal self-enhancing properties include optimism, which is said to be a positive cognition (Zauszniewski et al., 2009). Positive cognitions provide resistance to improve quality of life as individuals attempt to cope with existing stressors and redefine life's meaning (Witt et al., 2010; Zauszniewski et al., 2009). Other positive cognitions found in literature have been sense of coherence, meaning in life, perception of control, resilience, and positive illusions. However, positive illusions have not been as heavily researched as the other cognitive factors.

The illusions and unrealism that Taylor and Brown (1988) described were confused with delusions. Delusions are elements inherent within poor mental health (Vincze, 2011). Taylor and Brown's proposition challenged the traditional view of

mental health by equating positive illusions with proper mental health. Vincze (2011) provided an historical perspective on positive illusions based on evolutionary psychology. Other researchers have investigated Taylor and Brown's claim to integrate them with traditional literature (Blease, 2011; Cayley, 2011; Young, 2014). A literature gap exists because these positive cognitions have not been studied together for the combined and individual effect on quality of life. There is also no consensus regarding the importance of positive illusions among the number of already established positive cognitions.

Summary

This chapter was focused on how positive cognitions, optimism, resilience, meaning in life, sense of coherence, and perception of control may promote quality of life. However, there was uncertainty as to whether positive illusions should also be incorporated as a variable. Positive cognitions presumably function by altering the thought processes or perceptions to improve adaptation and coping. They are also expected to provide successful advancement and the achievement of goals in spite of prevailing circumstances (Ahlert & Greeff, 2012). Some researchers have asserted that individuals overcome distressing circumstances and overwhelming obstacles because they either reframe their situation or they refuse to dwell on these circumstances (Carver, Scheier, & Segerstrom, 2010). These individuals may become successful overcomers through unrealistic appraisals of the situation, which may be linked to positive illusions (Young, 2014). One's appraisal of a personal situation is discussed in the field of stress and coping through Folkman and Lazarus's (1980) theory.

Optimism, resilience, meaning in life, sense of coherence, perception of control, and positive illusions are distinct entities with a very complex association. Psychological well-being is compromised when there is no correct balance of optimism, resilience, meaning in life, sense of coherence, and perception of control. Proper appraisal of one's situation, together with proper coping, is needed to enhance quality of life (Bandura, 1997). Depending on one's appraisal of the situation, an individual may succeed by resiliently taking optimistic risks based on one's perception of control, the meaning one finds in life, and one's sense of coherence. The mental shortcut through which these risks are executed may be known as positive illusions (Young, 2014).

The concept of positive illusions as it relates to the advancement of the quality of life and the determination of the strength of its relationship to optimism, resilience, perception of control, meaning in life, and sense of coherence were addressed. The results of this study may provide an answer to the significance of positive illusions as a cognitive bias. The relative significance of positive illusions as a positive cognition, and the significance of positive cognitions as factors which enhance quality of life were assessed through stepwise multiple regression analysis, factor analysis, and standard multiple regression. Social change may be influenced due to the emphasis on the reduction of stress.

Chapter 2: Literature Review

Introduction

Science advances with contributions from other researchers and develops from a strong foundation that is built on valid research. Previous studies denote that cognitive factors enhance quality of life. These cognitive factors have been labeled positive cognitions due to the tendency to report that these factors (e.g., optimism, resilience, meaning found in life, sense of coherence, and perception of control) promote quality of life (Zauszniewski et al., 2009). Positive illusions have also been associated with the cognitive factors which contribute to quality of life (Vinzce, 2011). The questions raised were designed to compare these constructs to each other as significant contributors of quality of life and determine whether positive illusions are significant to this body of positive cognitions.

The literature search strategy is a section in Chapter 2 that has been designated for a discussion on how research was accessed. The theories guiding this study, and the origin of each theory, are provided in the theoretical foundation section. The association between the theories and the study's objectives are also presented here. The literature review provides details on key variables, optimism, sense of coherence, resilience, meaning in life, perception of control, and positive illusions as they relate to this study. The literature review also details analytical tools and methodologies used in this field of study. The chapter ends with a summary of the main ideas of the literature review, gaps in existing literature, and the importance of this study for meeting research gaps.

Literature Search Strategy

The information in this literature review has been extracted from journal articles derived from the Academic Search Complete, CINAHL Plus, SocINDEX, PsycARTICLES, Science Direct, Social Science Citation Index, and PsycINFO databases. The literature review process began in 2009 with a search for the word *illusionary optimism*. This term was not found. Later, there was a search for *optimism* and *illusions* which led to the identification of terms common to this area of study.

In research where illusions and optimism are found together, the terms *unrealistic optimism* or *positive illusions* are utilized. Further, investigation led to the related terms *sense of coherence* and *illusion of control*. Additional associated key words used to locate the information presented in this document were *resilience*, *locus of control*, *learned helplessness*, *stress*, *coping*, *salutogenesis*, *meaning in life*, *self-esteem*, and *self-efficacy*. There was also a search for *caregiver*, *family caregiver*, *caregiver burden*, *caregiver quality of life*, *social support*, and *support group*.

Several hundred journal articles on the optimism, resilience, sense of coherence, meaning in life, perception of control, and to a lesser extent, positive illusions, were identified in 2009. The ones that were selected were pertinent to the topic of this study. The information collected in 2009 was updated until 2014 using Thoreau. Additional literature was collected on health, life satisfaction, and well-being of adults, 18 years and older, based on each of the constructs, optimism, sense of coherence, meaning in life, perception of control, resilience, and positive illusions.

The abstract of each article was read to determine relevance to this study. A few of these abstracts provided adequate information to be included in this research project.

However, most of the information presented came from journal articles that were read in their entirety. Some of the research articles made reference to the books of seminal authors. These books were located and used as primary reference sources.

I highlighted the pros and cons of research arguments concerning positive cognitions. Literature since 1967 has been directly examined to establish a foundation for this study with emphasis on more current research. Older references were primary sources from Seligman, such as Seligman and Csikszentmihalyi (2000), and Seligman and Maier (1967). Other primary sources of information were used in this study, such as information from Bandura (1997), Antonovsky (1979, 1998), Carver (Carver, Scheier, & Weintraub, 1989), Rotter (1966), Taylor and Brown (1988), and Cummins and Nistico (2002).

Theoretical Foundation

Seligman, the scientist who created the learned helplessness theory, created the expression known as positive psychology for the purpose of counteracting the exclusive emphasis on pathology that has dominated the field of psychology (Seligman & Csikszentmihalyi, 2000). Seligman and Csikszentmihalyi (2000) stated that this emphasis on pathology counteracts positive features, such as optimism, which make life meaningful. Aspinwall and Tedeschi (2010) noted that the expression, positive psychology, came decades after psychologists began to study the themes that are embraced by positive psychology. These themes include positive experience, positive personality, positive communities and institutions, an attempt to understand how individuals respond to adversity, and the long-term effect of personal, social, and developmental factors on mental and physical health (Aspinwall & Tedeschi, 2010).

These themes have been identified in the theories of salutogenesis, dynamic equilibrium model, family systems, and family resilience. Salutogenesis was created by Antonovsky (1979) to focus on well-being through the reshaping of the thought processes, primarily by way of the sense of coherence. The dynamic equilibrium model was first used in this field by Cummins and Nistico (2002). The model describes a tendency towards balance. In the biological sciences and the field of psychology, the body has been shown to maintain balance and recovery during periods of stress. The origins of the family systems and the family resilience theories are not known. However, they have been seen in recent studies where they have been used to describe the relationship among family members and their world and factors that contribute to individual and family strength (Eggenberger et al., 2011; Yi, 2009).

Coping

The 2006 Reauthorization of Older Americans Act and the National Family Caregiver Support Program indicate national policy recognizes family members as indispensable caregivers. The 2006 Reauthorization of Older Americans Act authorized increased national funding to assist family caregivers and to reduce the cost of expensive nursing home care. Increased national funding also created increased outreach services, such as support groups for caregivers. As a form of social networking, support groups have been ranked within the top six outreach programs used by caregivers (Golden & Lund, 2009).

Support group attendees are typically the most stressed and vulnerable caregivers with lower levels of quality of life and higher levels of emotional and physical distress (Golden & Lund, 2009). Support groups may provide social support intervention to build

resilience and improve coping skills, which may be used when all other avenues have failed (Golden & Lund, 2009). Social networking is more effective when it fosters an environment that encourages expression of feelings, discussion about problems, and provides nonjudgmental validation of event-related thoughts and emotions (Mitchell & Knowlton, 2012).

Golden and Lund (2009) observed 11 caregivers in a support group meeting, and interviewed nine of these members. Observations took place once per week for a total of 20 weeks and revealed that there are underlying benefits when the composition is cohesive in support group participation. These benefits are demonstrated by improved self-identity, fewer feelings of isolation, feelings of empowerment and control over life's circumstances, with a reduced sense of burden, perceived strain, stress, embarrassment, discomfort, and uncertainty (Golden & Lund, 2009).

The experiences of caregivers may be understood using theories of stress and coping because increased levels of stress may impact mental health and quality of life (Witt et al., 2010). Structural equation modeling was utilized to assess caregiver role overload, perceived support, caregiver demographic characteristics, and the nature of social network among 215 informal caregivers (Mitchell & Knowlton, 2012). Individuals with lower perceived support experienced greater caregiver role overload. The nature of the stressor, the caregiver's appraisal of the situation, and the coping style of the caregiver, also served to influence the overall impact of this challenge on the caregiver (Mitchell & Knowlton, 2012; Pinqart & Fröhlich, 2009).

Coping reflects attempts to conquer overwhelming situations or threats to one's existence. Lazarus' (1980) theory of primary and secondary appraisal indicates a person

makes judgments (appraisals) about the environment before making a response. Appraisals are psychological or cognitive and vary according to the individual's expectations, interpretations, and evaluations of potentially stressful situations. Subsequent psychological, physiological, and emotional responses are also variable (Monat et al., 2007).

Problem-Focused and Emotion-Focused Coping

Folkman and Lazarus (1980) proposed two different approaches to coping, namely, problem-focused and emotion-focused. Problem-focused coping involves efforts to change or alter the nature of the problem, while emotion-focused coping involves efforts to change the emotional impact of the problem. Problem-focused coping can be external or internal. External problem-focused strategies are designed to change a situation or influence other individuals. Internal problem-focused strategies are designed to confront problems within the individual to develop new skills and responses. In contrast, emotion-focused coping is designed to manage one's emotions in stressful situations (Lee & Mason, 2013).

Differences exist in the effectiveness of the two coping strategies, depending on the situation and the individual's disposition (Monat et al., 2007). Emotion-focused coping strategies are generally viewed to be relatively maladaptive (e.g., avoidant type; Baker & Berenbaum, 2011). However, there are a wide range of emotion-focused strategies. Some of these emotion-focused strategies are very effective (Carver, Scheier, & Segerstrom, 2010). Emotion-focused coping is more useful when the situation cannot be altered or changed (De Castella et al., 2013). However, some forms of emotion-

focused coping (e.g., avoidant type) may lead to mental health problems (Carver et al., 2010).

Stress

Stress is assessed on socio-cultural, physiological, and psychological levels. Physiological stress is a consequence of the body's reaction to potentially harmful stimuli. Psychological stress describes the individual's emotional and cognitive appraisal of possible threats. Sociocultural stress describes the exacting contributions of social systems or social units to the development of the appraisal of stress (Lee & Mason, 2013). When the three sources of stress are intertwined, the caregiver's experience is more unbearable.

In relation to the dynamic equilibrium model, stressors have a destabilizing effect on the body because they combat the body's process of homeostasis to hinder normal physiological and behavioral responses. The stress system has two modes of operation which are monitored by the homeostatic system (Oitzl, Champagne, van der Veen, & de Kloet, 2010). One of these systems is known as the fight or flight response and influences the individual's reaction to specific triggers. The other system is designed to create a process of adaptation and recovery. The two modes of operation interact with each other to help in adaptation under each circumstance. However, when the stress system has malfunctioned, it results in attenuated homeostatic processes in the body (Oitzl et al., 2010).

The body has better adaptations for acute stress than for chronic stress. The body typically adjusts to acute stress by turning off the stress response system soon after it has been activated (Oitzl et al., 2010). The secretion of cortisol is an acute reaction to the

perception of stress which may eventually compromise health if the stress-response system is habitually activated (Jobin et al., 2014). Cognitive factors, such as optimism, create behavioral and emotional changes which serve as moderating factors between the perception of stress and its association with increased cortisol secretion (Jobin et al., 2014).

Chronic stress is prolonged and takes a toll on the body, since the body has to keep the stress response system actively running for as long as the chronic stress activates it (Oitzl et al., 2010). The stress response system should be activated rapidly when it is needed and efficiently terminated afterwards (Oitzl et al., 2010). Unremitting stress leads to an allostatic load when the cost of reinstating homeostasis becomes too high. Furthermore, chronic activation of the stress response system may have a lethal effect on the body by reducing one's immune defenses (Oitzl et al., 2010).

The same mechanisms which serve to protect the individual can cause the person harm if they are excessively stimulated. In a normal (acute) stress response, the blood is designed to clot more quickly (Oitzl et al., 2010). When the stress response is exacerbated, blood clots may occur in inappropriate places, such as in coronary arteries. Finally, as dictated by the diathesis stress model, genetically predisposed individuals may develop mental illness (Oitzl et al., 2010).

Successful and Unsuccessful Coping

Cognitive resources and affect become more limited, narrow, and focused during periods of stress resulting in decreased affective complexity. Increased affective complexity is associated with decreased stress and improved adjustment because affective complexity provides a salutary function in spite of subjective distress, adverse

life events, and controllable or non-controllable life circumstances. Affective complexity is demonstrated in studies of cancer patients, many of whom maintain salutary well-being and distinctly high quality of life (van der Spek et al., 2013).

Additional research comparing the healthy population with those with chronic illnesses supports the theory of cognitive adaptation and coping flexibility. The theory of cognitive adaptation relies upon an optimistic outlook, restoration of control over the event, and the restoration of self-esteem (Gan & Liu, 2012). Coping flexibility describes an individual's ability to change one's perception of control over different situations (Gan & Liu, 2012).

Traditional studies on coping promote the expression of negative emotions (e.g., venting) during dire circumstances. As an emotion focused regulation, repressive coping may present a positive adaptation and protective shield from these events (Carver et al., 2010). Fewer symptoms of psychopathology, fewer health problems and somatic complaints, and higher rates of positive evaluation associated with repressive coping when compared to non-repressive coping, such as venting. However, Carver et al. (2010) concluded that repression, in terms of denial, does not confer benefits to the individual as denial involves the refusal to accept the reality of the situation. Instead, acceptance is encouraged as it governs and restructures one's perspective to cope more adequately with the situation. Resignation, a form of repressive coping, is not endorsed because resignation is equivalent to giving up. Resignation is also associated with negative outcome as in the hastening of death (Carver et al., 2010).

Women struggling with cancer were more likely to adhere to medical treatment when they had a greater ability to self-regulate emotions and lower negative affect

(Sherman, Roussi, & Miller, 2012). Individuals who focus on a central outcome attempt to change the stressor, while those who focus on a compensatory outcome attempt to change the circumstances which are influenced by the stressor (Sherman et al., 2012). This theory is similar to Folkman and Lazarus' (1980) theory on problem-focused and emotion-focused coping.

Outcome

Individuals who see life's challenges as an opportunity for personal growth and mastery prepare to avoid succumbing to the deleterious effects of these challenges. Self-enhancing prophecies foster increased motivation, greater persistence, more effective performance, and greater success (Carver et al., 2010). Great innovators and achievers have accomplished significant tasks in spite of innumerable obstacles due to strong commitment to succeed and exaggerated self-appraisals of situations which have high probability of goal realization (Bandura, 1997). Exaggerated self-appraisals are illusory judgments that result in personal and social changes when accompanied by persistence, tenacity, and self-belief. Illusory judgments have the potential to be detrimental to the individual who is committed to a task that has a low probability of realization (Bandura, 1997).

Optimism and Self-Enhancement

On the quest towards self-enhancement, individuals tend to anticipate the best for themselves. Optimism, a self-enhancing property, is based on an individual's subjective viewpoint (Carver et al., 2010). This subjective viewpoint may reflect the individual's general worldview of every situation or it may pertain to a specific situation (Carver et

al., 2010). Optimism is an important factor in resilience and is essential for effective coping (Banerjee, 2012; Lee & Mason, 2013).

Expectations

Expectations shape behaviors, goals, and general functioning. There are two types of expectations, self-efficacy and outcome. The former relates to one's ability to achieve the desired outcome while the latter reflects the attainment of one's goals (Bandura, 1997). Optimism is a specific outcome expectation that has been known to impact subjective well-being (Bandura, 1997). This subjective sense of well-being and heightened power of functioning may be due to more effective problem-focused coping and emotional self-regulation strategies (Kardemas & Giannousi, 2013). Studies in self-protective behaviors, however, revealed that individuals are less likely to exercise precaution when feeling optimistic (Carver et al., 2010). Gambling illustrates this point, as optimists are more inclined to take risks which are likely to have a poorer outcome than pessimists. In this context, positive expectancies and persistence are detrimental to the individual who refuses to resign after the goal has been lost (Carver et al., 2010).

Optimism and Pessimism

Lau et al. (2014) based their study on optimism's dimensional association with pessimism and note that the effects of optimism must be disentangled from the effects of pessimism. Optimism and pessimism are often conceptualized as being redundant with positive and negative affect. Illustrating the importance of optimism and pessimism on quality of life, Gruber-Baldini, Ye, Anderson, and Shulman (2009) stated that the disabling nature and severity of Parkinson's disease depends on dispositional factors, such as optimism, pessimism, and locus (perception) of control. Optimists appear to be

more active copers while pessimists seem to be more inclined to employ ineffective coping strategies, such as overt denial, disengagement, and substance abuse (Carver et al., 2010). In situations of extreme stress which require active coping, optimism appears to provide distinct advantages over positive or negative affect, with optimism having a strong direct influence on the mitigation of depression (Banerjee, 2014; Vollman, Scharloo, Langguth, Kalkouskaya, & Salewski, 2014).

Vosgerau (2010) tested the theory that individuals may be both overly optimistic and pessimistic, depending on whether the focus is on success or failure. Four experiments were designed to test the likelihood of success in terms of wishful thinking and overconfidence. Vosgerau suggested that the probability of pessimism is equally as high as the probability of optimism, and optimism is not as common as traditional studies indicate.

Banerjee (2012) used hierarchical multiple regression analysis to assess 94 individuals for the moderating effect of optimism on the relationship between stress and depression. In this study, age and gender were used as control variables, whereas stress and optimism were the independent variables. Depression was the dependent variable. Stress was evaluated using the Perceived Stress Scale while optimism and depression were tested by the Life Orientation Test-Revised and Beck Depression Inventory, respectively (Banerjee, 2012).

Self-regulation. Optimism and pessimism have been described as forms of egocentrism because individuals possess either a positive or negative bias towards self-regulation (Littman-Ovadia & Nir, 2014). As a dispositional trait through which the self-serving bias is often demonstrated, optimism offers individuals more positive self-views.

Depressed individuals do not generally demonstrate self-serving biases or any other form of self-deception (Taylor & Brown, 1988).

Accurate self-awareness may not accommodate well-being since self-consciousness positively correlates with depression, and depression is associated with learned helplessness (Taylor & Brown, 1988). Moderately depressed individuals or those who have low self-esteem recall positive and negative information with equal frequency, and consequently, have greater aptitude for realism (Taylor & Brown, 1988). One who makes appraisals in an unbiased and balanced manner is not necessarily a well-adjusted individual, even though that individual may be the most realistic (Taylor & Brown, 1988).

Personal achievements. An individual who confidently focuses on mastery may be more likely to succeed when compared to other individuals who harbor negative perceptions. Individuals lack a sense of coherence and resilience factors which provide the resources to overcome stress without positive cognitions, such as optimism (Zauszniewski et al., 2009). Moreover, the association among optimism, goal engagement, and attainment is moderated by how highly the goal is prioritized (Geers, Wellman, & Lassiter, 2009). Optimism and pessimism seem to be derived from cognitive misattributions of arousal cues. These inaccurate cognitive perceptions may be associated with an individual's perception of control, resulting in wishful thinking (Vosgerau, 2010).

Optimism and pessimism are extremes at either end of a continuum (Smith, Ruiz, Cundiff, Baron, & Nealey-Moore, 2013). Optimists and pessimists employ differing coping mechanisms. Optimists believe nothing is formidable (Carver et al., 2010). A poor health diagnosis is less threatening to optimists because they are more likely to embrace

more efficient coping mechanisms, (e.g., acceptance) and reject unproductive coping mechanisms (e.g., denial; Wurm & Benyamini, 2014).

Carver, Scheier, and Segerstrom (2010) explained optimists perceive things in the best possible light, work harder, and more efficiently. However, optimism may fluctuate depending on individual differences and the situation (Nes, Roach, & Segerstrom, 2009). Individuals suffering from chronic pain were assessed for self-regulation through optimism. Self-regulation and optimism fluctuated with pain on an intrapersonal and interpersonal basis (Nes et al., 2009).

Optimism and Well-Being

In Mishra's (2013) study on optimism and well-being, quality of life was divided into three components which were: physical health, psychological states, and social relationships. Optimism is one of these psychological states. Individuals high in optimism scored higher in overall quality of life and its dimensions than individuals with lower levels of optimism (Hanssen, Peters, Vlaeyen, Meevissen, & Vancleef, 2013).

Optimism predicts coping performance through influencing the affect and general mental health of the individual (Wurm & Benyamini, 2014). The individual's affect may then have an effect on well-being or influence resilience, irrespective of the nature of the situation encountered (Newton-John, Mason, & Hunter, 2014). Optimism is influential in the development of hardiness through its association with resilience and self-efficacy (He, Cao, Feng, Guan, & Peng, 2013).

Optimists are more likely to adapt to pain and other life challenges through problem-focused coping and the more effective forms of emotion-focused coping (Hanssen et al., 2013; Smith, Ruiz, Cundiff, Baron, & Nealey-Moore, 2013). Another

study reported that optimism improves health outcome by limiting the association between stress and elevated levels of cortisol (Jobin, Wrosch, & Scheier, 2014).

Additionally, Tucker et al. (2013) observed the mitigation of rumination, depression, suicidal ideation, and suicide risk factors in relation to hope and optimism in a sample of American Indians and/or Alaskan Natives.

Hope and optimism are conceptually redundant and highly correlated constructs (Wong & Lim, 2009). Wong and Lim (2009) studied 334 students to determine the validity of optimism and hope in determining unique variance in depression and quality of life. Using hope as the control, hierarchical multiple regression indicated that optimism significantly predicts depression and quality of life. Using optimism as the control, further hierarchical multiple regression analysis indicated that hope significantly predicts depression and quality of life. Nevertheless, the incremental unique variance associated with depression was 6% higher for optimism than for hope. Although correlational analysis indicated a significant correlation between hope and optimism, simultaneous multiple regression analyses supported the conclusion that only agency, optimism, and pessimism made unique contributions to the variance in depression and quality of life (Wong & Lim, 2009).

Optimism predicts coping effectiveness which in turn plays a significant role in buffering negative affect while stabilizing mental health (Vollmann, Scharloo, Langguth, Kalkouskaya, & Salewski, 2014). Two hundred patients suffering from chronic tinnitus were assessed for the relationship between dispositional optimism and depression using a cross-sectional correlation analysis. Optimism was evaluated using the Life Orientation Test-Revised questionnaire while illness representations and depression were tested

through the Illness Perceptions Questionnaire-Revised and Hospital Anxiety and Depression Scale (Vollmann et al., 2014).

Optimism has also been known to mitigate the effects of economic pressure, resulting in increased social adjustment (Taylor, Widaman, Robins, Jochem, Early, & Conger, 2012). Data from a longitudinal study on 674 Mexican-origin families were evaluated using correlations. Model fit was determined using standard chi-square index, the Root Mean Square Error of Approximation, the Tucker-Lewis index, and the comparative fit index (Taylor et al., 2012).

Littman-Ovadia and Nir's (2014) results were based on a daily self-applied optimism intervention in adults within the general population. Assessments were made at baseline, immediately after, and one month following the intervention using the Life Orientation Test-Revised, Positive and Negative Affect Scale, Satisfaction with Life Scale, and Burnout Measure Scale. Multiple analyses of variance and analysis of covariance had been used to evaluate the data. Results indicated that higher initial optimism increased the effect of optimistic intervention in the optimism group and not the control group. The optimism group experienced comparatively less burnout and negative affect, and a greater increase in optimism during the course of the study (Littman-Ovadia & Nir, 2014).

Optimism and Illusions

Optimism is invariably linked to topic areas involving illusions, since an individual's subjective view of reality may not be accurate. Individuals experience illusions of control (Taylor & Brown, 1988), a specific property of the concept of locus of control. Optimism and illusions may influence several areas of the individual's life.

Illusion and optimism are also expressed through comparative optimism, a self-enhancement social bias in which individuals expect better outcomes for themselves than for others (Hevey & French, 2012). These biased expectations may reflect reality and as such, they may be positive illusions and not unrealistic optimism or illusions of control (Hevey & French, 2012; Taylor & Brown, 1988; Vincze, 2011).

Resilience

Resilience describes an individual's ability to maintain relatively stable levels of healthy psychological and physiological functioning during adverse conditions (He et al., 2013). Resilience is also known as hardiness. The three factors of resilience are commitment, control, and challenge. Commitment is a construct that offers a persistent state of being in spite of insurmountable challenges and minimal control. Individuals have been known to be strong in one or both factors of hardiness. The construct becomes fully developed when the individual is strong in all three factors (Monat et al., 2007).

Resilient individuals manage daily hassles and successfully overcome complex challenges (Newton-John et al., 2014). Resiliency is exemplified in coping studies where more resilient individuals function at relatively normal levels when compared to individuals with limited coping flexibility and adaptation. Due to self-reports of positive transformation in the face of crisis, resilience is seen as a cognitive transformation marker which helps to reevaluate experience and recognize new growth-promoting opportunities (Blackwell et al., 2013).

Resilience, which was identified as being positively correlated with self-esteem, provided greater adaptation to chronic pain (Newton-John et al., 2014). The conclusion was drawn from a study which was conducted through the use of eight standardized

questionnaires, a numerical rating scale for pain intensity (NRS), Pain Self-Efficacy Questionnaire, Tampa Scale for Kinesiophobia, Pain Catastrophizing Scale, Roland-Morris Disability Questionnaire, Depression Anxiety and Stress Scale, Brief Resilience Scale, and OSLO-3 Social Support Scale. There were 101 adult participants in this study, recruited from a pain-management clinic. Data were evaluated through Pearson correlation and hierarchical multiple regression analyses (Newton-John et al., 2014).

Regardless of distress, resilient individuals flourish, are able to persevere toward the fulfillment of personal goals, and maintain social responsibilities (Mautner et al., 2013). Sixty-seven women with previous preeclampsia were evaluated for depression, resilience, physical and mental quality of life using Edinburgh Postnatal Depression Scale, Resilience Scale, and the Medical Outcome Study Short-Form 12. Following an independent samples t-test and chi-square test analyses, the researchers noted that women with higher states of resilience experienced less depression and improved mental quality of life (Mautner et al., 2013).

Resilient individuals have more complex and varied affect with a greater capacity for positive emotions, self-regulation, and more productive experiences (Bonanno, 2013). Individual resilient characteristics contribute to family resilience. Family resilience is explained by the Family Resilience Theory, which emphasizes the adjustment and adaptation of the family as a unit during periods of crisis. This theory takes into account the internal strengths and hardiness of the family unit as is influenced by intrafamilial support, family problem solving and coping skills, family sense of coherence, family flexibility or adjustment to change, and family resistance resources, such as religion, culture, and social experiences (Ahlert & Greeff, 2012).

Greeff and Nolting (2013) collected data from forty parents using six questionnaires from McCubbin et al. (1996) and one open ended question to determine several levels of family resilience. These resistance levels were listed as acceptance of the situation, positive patterns of family communication, commitment to the family as a unit, a positive attitude toward new experiences and challenges, and family adaptation (Greeff & Nolting, 2013). Subsequent data analysis using regression and best-subset regression emphasized the importance of family communication patterns in the promotion of family adaptation and family resilience (Greeff & Nolting, 2013).

Sense of Coherence

Sense of coherence is the means through which individuals relate to internal and external stimuli by way of resilience, self-efficacy, self-esteem, comprehensibility, hardiness, manageability, and meaningfulness (Antonovsky, 1998; Bandura, 1997). Sense of coherence may enhance human functioning through increased perseverance and motivation to succeed. This influences one's appraisal while promoting order when individuals reframe their situations as comprehensible, manageable, and meaningful (Antonovsky, 1998).

A sense of coherence creates higher levels of reorganization and adjustment after a crisis due to the stressors being viewed as challenges and not threats. Sense of coherence then limits the emotions which would lead to helplessness, despair, and resignation (Eller et al., 2014). Cancer patients and their partners reported fewer symptoms of depression and anxiety when compared to less optimistic individuals with a weaker sense of coherence (Gustavsson-Lilius, Julkunen, Keskivaara, Lipsanen, & Hietanen, 2012). As a self-enhancing property mediated by self-esteem and positive

illusions, sense of coherence with optimism may create intrapersonal adjustment. The impact on interpersonal relations is, however, variable (Dufner et al., 2012; Hevey & French, 2012).

The perception of the loss of control over a situation is related to poor sense of coherence. As a construct, self of coherence influences one's ability to cope during times of crisis, thereby regulating individual motivation and moderating one's perception of situational control (Eller et al., 2014). Further research indicates individuals who are positive are more likely to succeed than individuals who are negative depending on the situation and how highly the goal is prioritized (Geers et al., 2009).

Sense of coherence was distinguished as an independent predictor of health related quality of life among coronary heart disease patients (Silarova et al., 2012). Sense of coherence was tested on 179 patients at baseline, the 12th and 28th month follow up visits. Sense of coherence was measured by the Orientation to Life Questionnaire. Health related quality of life was determined by the Short Form Health Survey 36. Data from this longitudinal study was evaluated using regression analyses (Silarova et al., 2012). In contrast, Ngai and Ngu (2014) used a cross-sectional design to assess 224 couples for family sense of coherence and family adaptation using the Family Sense of Competence Scale, Social Readjustment Rating Scale, Medical Outcome Study Family and Marital Functioning Measures, and General Health Questionnaire. In this study, sense of coherence promoted psychosocial adjustment (Ngai & Ngu, 2014).

Meaning in Life

Heintzelmann and King (2014) proposed that meaning in life is fundamental to the implementation of well-being, and to overcome stress and hardship, which are all

predictable occurrences in family life. In an effort to enhance strengths and cultivate competencies for recovery from expected and unexpected hardship, families search for meaning, purpose, and the restoration of order, balance, and harmony (Dezutter et al., 2013). Meaning in life was also emphasized in cancer survivors in conjunction with their relationships, experience, resilience, goal orientation, and legacy (Van der Spek et al., 2013).

Meaning in life has been described as a cognitive personality trait that is a byproduct of a sense of coherence, the understanding of existence, a sense of purpose in life, setting life goals, achieving these goals, and a feeling of satisfaction or self-fulfillment once these goals have been actualized. A relationship also exists among meaning in life, optimism, quality of life, and psychosocial adjustment (Ho et al., 2010). Ju, Shin, Kim, Hyun, and Park (2013) maintained that in the latter years of life, meaning in life takes precedence over optimism in promoting subjective well-being. In that study, 252 elderly women were measured for levels of optimism, meaning in life, subjective well-being, as well as demographic characteristics, such as living arrangements, socioeconomic status, health status, and physical activity. The instruments employed were the Life Orientation Test-Revised, the Meaning in Life Questionnaire, and the Happiness Scale, for optimism, meaning in life, and subjective well-being respectively. Structural equation modeling and hierarchical modeling equation were the data analyses measures (Ju et al., 2013).

In another study with 500 participants, Cohen and Cairns (2012) purported that there is no single theory that accurately explains meaning in life. However, Eakman (2014) documented that a change in meaningful activity influences meaning in life

directly and also indirectly by influencing psychological functioning. Meaning in life was measured by the Meaning in Life Questionnaire for both studies (Cohen & Cairns, 2012; Eakman, 2014). The Depression Happiness Scale, the Short Index of Self-Actualization, the Achievement Motives Scale, and the General Self-Efficacy Scale were additional measures employed in Cohen and Cairns' (2012) study. Also, in Eakman's (2014) study, the Engagement in Meaningful Activities Survey, the depression subscale of the Depression, Anxiety and Stress Scales, and the Basic Psychological Needs Scale were employed. Analyses were performed through multiple regression (Eakman, 2014) and analysis of variance (Cohen & Cairns, 2012).

There is a clear distinction between the search for meaning in life and the presence of meaning in life. The search for meaning in life may be associated with distress, and happiness is not guaranteed, although self-actualizing meaningful activities may provide happiness and subjective well-being. Negative outcomes arising from the quest towards life meaning is averted in the presence of meaningfulness (Cohen & Cairns, 2012).

Patients were observed to possess low presence with high search, high presence with high search, high presence with low search, or low presence with low search for meaning in life (Dezutter et al., 2013). Individuals with low presence of meaning in life performed better when they did not have a maladaptive search for meaning. Individuals exhibiting the low presence-high search profile were observed to have low levels of well-being. In contrast, individuals with the high presence-high search profile exemplified an adaptive search for meaning with higher levels of well-being. Individuals with the low presence-low search profile exhibited higher levels of well-being than individuals with

the low presence-high search profile. The highest quality of well-being was demonstrated by individuals with the high presence-low search profile (Dezutter et al., 2013).

Meaning in life fosters well-being through meaningful activities, which in turn creates changes in psychological areas of fulfillment, such as autonomy and competence (Eakman, 2014). The presence of meaning in life and high levels of self-actualization has the potential to reduce the distress faced when individuals search for meaning. High levels of self-actualization offsets the imbalance experienced during the search for meaning (Cohen & Cairns, 2012).

Self-actualized individuals are active copers and problem solvers who pursue growth (Cohen & Cairns, 2012). Self-actualized individuals experience happiness, the state of well-being, the realization of one's true potential, the achievement of goals because self-actualization provides an effective buffer against distress (Cohen & Cairns, 2012). Self-actualization cannot then be accomplished when there are low levels of self-efficacy. The lack of hope or meaning in life is associated with resignation and beliefs that life is too challenging (Cohen & Cairns, 2012).

Perception of Control

Perception of control is a measure of an individual's subjective appraisal of whether or not a situation is amenable to change (Rotter, 1966). Perception of control, also known as locus of control, falls along a continuum. On one end of this continuum is the feeling of not having control over the situation (i.e., external locus of control) while at the other end of the continuum is the feeling of having control over oneself in spite of the situation (i.e., internal locus of control; Rotter, 1966). In situations where there is perceived control, one relies on optimism, problem-focused coping, and resilience to

sufficiently buffer the effects of life stress. Intrapersonal skills develop, fostering the maintenance of perception of control (Asberg & Renk, 2014).

Personality factors influence the coping process such that individuals who utilize the attribution of internal locus of control have lower levels of distress and helplessness. These individuals perform better through the use of more efficient problem-focused coping, greater creativity, stronger motivation, perseverance, and an optimistic outlook (Edo, Torrents-Rodas, Rovira, & Fernandez-Castro, 2012). Perception of control also relates to one's self-efficacy, self-concept, and self-esteem, ultimately influencing one's perspective on the actual control that one possesses over the circumstance (Bandura, 1997).

The individual's sense of self-efficacy regulates individual motivation and moderates one's sense of control over the situation (Eller et al., 2014). Psychological responses, such as perceived stress, depression, anxiety, and physiological arousal, occur when individuals have a poor sense of self-efficacy and feel loss of situational control (Eller et al., 2014). The perception of pain is related to one's perception of control over the pain. Increased perception of control confers advantages over lower levels of the construct, in terms of decreased state of anxiety, lesser reliance on situational emotional coping, and greater reliance on situational task coping (Hanssen, Peters, Vlaeyen, Meevissen, & Vancleef, 2013).

Correlation analyses and multivariate regressions were used to analyze data collected from 99 patients with Parkinson's disease. These patients were evaluated for the impact of optimism, pessimism and locus of control on disability and health related quality of life. The Life Orientation Test and the Multidimensional Health Locus of

Control were the instruments used to assess the optimism-pessimism spectrum and locus of control, respectively. The Older Americans Resource and Services Activities of Daily Living Subscale, and the Short Form-12 Health Status Survey were also utilized in the assessment process. The results from this study illustrated that positive attitudes and personal control may assist in reducing disability and increase health related quality of life (Gruber-Baldini et al., 2009).

Positive Illusions

An association between positive illusions, an optimistic forecast, and sound mental health has been documented (Patnaik, 2013). Positive illusions may be correlated with hope. Dorsett (2010) evaluated positive illusions in the context of hope in a sample of forty-six individuals with spinal cord injury. Hope was identified as a positive coping factor because patients hoping for a cure were more likely to experience increased quality of life and recovery (Dorsett, 2010).

Individuals who are generally grandiose in their appraisal of control are classified as having an illusion of control (Vincze, 2011). Illusion of control is observed when individuals have no actual control over the circumstance, yet the desire for control influences the outcome of the situation (Novovic, Kovač, Đurić, & Biro, 2012). Illusions of control have a tendency to occur when individuals lose hope based on the realities of the situations encountered (Pinquart & Fröhlich, 2009). In contrast, positive illusions are positive emotion-focused coping self-enhancing factors, ultimately leading to optimism in situations that are usually considered hopeless (Pinquart & Fröhlich, 2009).

Research Strengths and Weaknesses

Taylor and Brown (1988) pioneered the concept that illusions may be important to normal psychological functioning. Traditionally, individuals are considered well-adjusted when their lives are devoid of illusions. However, illusions, such as heuristic biases and mental shortcuts, are part of normal cognitive function (Cayley, 2011). This concept is being used in medicine today where deception is employed in scientific studies (Blease, 2011; Cayley, 2011). The treatment of depression illustrates this point. Treatments for depression are very effective although the medicines for depression may not be significantly different from the placebo. Patients' faith in healing may contribute to the healing process itself (Blease, 2011).

Studies in human cognition indicate a generalized tendency toward self-enhancement to the extent that individuals overestimate their own competence (Blease, 2011; Vincze, 2011). An example of this is seen in the human population when there is an orientation towards positive self-reports on quality of life, which may arise from biased reporting and biased appraisal of life (Blease, 2011; Nes et al., 2009). Another example is seen when more optimistic individuals are reported to possess stronger motivation, greater persistence, and enhanced performance with accompanied resource growth (Carver et al., 2010). Increased generalized optimism leads to egocentrism due to unrealistically positive views of one's self (Nes et al., 2009).

Truth is necessary for accurate perception of self and for both physical and social adaptation. However, through the distortion of reality, illusion of control may alter human potential to know truth (Vincze, 2011). Illusions create problems when they are cognitive misattributions, gross miscalculations, or dysfunctional errors in judgment

(Vosgerau, 2010). Illusions fail to be self-limiting when they are not unreasonably incongruent with reality (Bandura, 1997). Illusions of control are adaptive if the situation is acquiescent to change. Conversely, illusions of control are maladaptive if the circumstance cannot be influenced (Vosgerau, 2010). The appraisal of control is partly dependent on the circumstances and not merely on the individual's personal characteristics. Moreover, individuals may be able to influence some aspects of their situation through some form of compensation, even when all aspects of the situations may not be overcome (Sherman et al., 2012).

Summary and Conclusions

Psychological factors which have been labeled positive cognitions are mental heuristics associated with self-reported biases towards the advancement of quality of life (Zauszniewski et al., 2009). The positive psychology constructs delineated in this study, namely optimism, resilience, meaning in life, perception of control, sense of coherence, and possibly positive illusions, have been associated with self-regulation and positive personal and interpersonal accomplishments. These themes have been described in this chapter through a discussion on the elements of stress and coping.

Positive psychology embraces theories, such as the theory of salutogenesis, the family system theory, the family resilience theory, and the dynamic equilibrium model. These theories are associated with stability and cohesion of individuals who comprise the family unit. Yet, positive psychology is imbued with positive beliefs which have no direct ability to cure (Aspinwall & Tedeschi, 2010). Researchers have discussed the disadvantages of having an optimistic perspective during high risk situations when there is limited likelihood of success (Carver, Scheier, & Segerstrom, 2010). Extreme forms of

positive illusions create self-deception which is exemplified by positive and negative distortions in thinking (Novovic et al., 2012).

Nonetheless, researchers and practitioners cannot continue to ignore claims which are important to the individuals they assist because positive thoughts and feelings are important to human health. The scientific study of constructs which may possibly benefit human life must continue when possible (Aspinwall & Tedeschi, 2010). The chapter which follows was devoted to developing a methodology for determining the significance of positive cognitions, individually, and collectively, towards the advancement of quality of life. A specific focus will be placed on positive illusions to determine if the construct is a significant positive cognition which bears a relationship to other positive cognitions.

Chapter 3: Methodology

Introduction

Positive thinking is the underlying premise behind positive psychology because positive thinking has been implicated in enhancing the ability to cope with stress (Gruber-Baldini et al., 2009). Researchers in the areas of positive psychology, stress, and coping have been relatively consistent regarding optimism, resilience, perception of control, meaning in life, and sense of coherence. In contrast, positive illusions have been questioned as a construct, particularly in relation to the cognitive processing of the average psychologically healthy mind (Vincze, 2011). I focused on describing the manner through which positive illusions relate to optimism, resilience, perception of control, meaning in life, and sense of coherence, as positive facilitators of quality of life in adults, with special emphasis on caregivers.

The research design and rationale of this chapter document the study variables and purpose for the types of quantitative measures utilized. The methodology includes a description of the population, sample, and sampling procedures. The information on population served to provide data on informal, unpaid caregivers, although the sample was taken from the general population of internet users. The reason for honing in on unpaid caregivers through the vehicle of the Internet was also provided with information on the effect size, alpha, and power level.

The procedures for recruitment included a description on recruitment process and types of demographic questions presented before the actual survey. Participation was optional in this online survey. All participants were provided a statement of consent which clearly stated they may exit the survey when desired. There was no follow up

based on the participants' choice to either complete the survey or end it prematurely. Data collection covered the passage of information from the online source to the researcher's personal password protected computer. A description of data maintenance, including the length of time this data will be saved, has been documented.

The section on published instruments revealed the names of the instruments, the names of their creators, and how these instruments were accessed from public domain. The manner in which each survey relates to this study was also described, and published reliability estimates are provided. The studies were all used in previous research. These research studies have been identified.

The operational definition of each constructs is provided with a description of the manipulation process for each variable. The name of the data analysis software is given. An explanation of the data cleaning and screening process is also provided. The research questions and hypotheses reappear in this chapter with a description of the statistical tests used to examine each hypothesis. The statistical means used to present the results was also described. Potential threats to the validity of this study are revealed before a discussion on ethical considerations. The main points of the chapter are later summarized.

Research Design and Rationale

The approach to this study is widely accepted because a multitude of quantitative measures have already been utilized in research on positive cognitions (i.e., optimism, sense of coherence, meaning in life, perception of control, resilience, and positive illusions). These measures have predominantly been correlation, multiple regression, factor analysis, and analysis of variance. The actual measure chosen has depended on the research questions of the specific study.

The independent variables were optimism, resilience, perception of control, meaning in life, sense of coherence, and positive illusions. The dependent variable was quality of life. Correlation, which offers a relationship between the variables, was useful in this study, even though it was not the focus. Multiple regression analyses were used to assess correlation relationships to gather information on two of the concentrations of this study.

Standard multiple regression was used to address the potential collective benefit of positive cognitions to overall quality of life. Stepwise multiple regression analysis was used to reveal the individual hierarchical significance of the positive cognitions to quality of life. Factor analysis was also used to determine the significance of each component among the positive cognitions.

Methodology

Population

The population of informal, unpaid caregivers was reported to be 65.7 million in 2009, comprising almost one-third of the adult population in the United States. Approximately 66% of these caregivers were female with an average age of 48. A gender balance was seen when the care recipient was between 18 and 49 years of age, with 47% of caregivers being male (The National Alliance for Caregiving and AARP, 2009).

Sample and Sampling Procedures

Informal caregivers are more technologically advanced and receptive of social tools related to health than the general population (Pew Research Institute, 2012). Data were collected online using the random sampling method. Participants were recruited

through Survey Monkey, screening for adult Internet users in the U.S. who had fluency in English and a willingness to participate. Survey Monkey is a program used by professionals within and outside the academic sphere. The academic program encompasses anonymous online recruitment by invitation only. Participants were then redirected to a secure webpage.

A minimum sample size of 150 was required for this study to provide an effect size of 0.1, two-tailed alpha $p < 0.05$, and a desired statistical power level of 0.80 (Mertler & Vannatta, 2010; Soper, 2013). However, although there were originally 180 participants, only 138 individuals chose to complete the study, yielding an observed power of 0.76 and an observed effect size of 0.086.

Procedures for Recruitment, Participation, and Data Collection

A professional plan was purchased from Survey Monkey for participant recruitment and data collection. A statement of consent was provided (see Appendix A) and individuals were asked to volunteer approximately one hour of their time through the Survey Monkey system. Compensation was offered in one of three ways. Participants were offered a chance to win a \$100 sweepstakes for which one winner was chosen every week. Individuals were also given the chance to accrue bonus points for participation to later claim merchandise and gift cards, or lastly, participants could opt to have \$0.50 sent as a donation to any charity of their choice through the Survey Monkey system.

Each participant was assigned an identification number during the data collection and analysis process. This identification number was the only means used to identify the participants and helped to maintain anonymity. Participants were not asked specific questions regarding age and gender. Instead, they were asked whether they were at or

above the age of 18. They were also questioned about fluency in English, and the level of education attained. They were asked whether they were paid or unpaid caregivers, the length of time they were caregivers, and the frequency of care provided. Another survey, designed to provide answers to the research questions, followed a statement of consent and a demographic questionnaire. Participants were free to exit the study at any time.

Data were exported from the Survey Monkey system to the SPSS 21.0 system of the researcher's personal password protected computer. Data were retained in paper and computerized format and will be saved for a minimum of five years before being destroyed.

Instrumentation of Constructs

For the present study, the instruments chosen were found in public domain. These instruments were made available online through the Department of Psychology at the University of Miami, Brief-COPE, Positive Generalizations (POG), and Life Orientation Test-Revised (LOT-R). The Family Coping-Coherence, Family Hardiness, and the Family Crises Oriented Personal Evaluation (F-COPES) scales were found in a manual that was available for purchase from the creators and owners McCubbin et al. (1996). Rotter Internal-External Control of Reinforcement Scale was available in an article written and published by its author (Rotter, 1966). The researcher created an additional scale to be used to gather demographic material (see Appendix B).

Brief-COPE. The Brief-COPE Inventory predicts adaptation after life changes and provides a measure indicating quality of life. The Brief-COPE Inventory is a shorter version of Carver, Scheier, and Weintraub's (1989) COPE Inventory. The original COPE Inventory was long (i.e. 60 items) and highly redundant, making participants very

impatient (Carver, 1997). The COPE Inventory was subsequently reduced to form the 28 item Brief-COPE Inventory. The Brief-COPE Inventory (see Appendix C) tests 14 conceptually different coping reactions. There were two items per coping reaction. The coping reactions were active coping, planning, positive reframing, acceptance, humor, religion, use of emotional support, use of instrumental support, self-distraction, denial, venting, substance use, behavioral disengagement, and self-blame. The test-retest reliability estimates for each type of coping reactions were 0.68 (active coping), 0.73 (planning), 0.64 (positive reframing), 0.57 (acceptance), 0.73 (humor), 0.82 (religion), 0.71 (use of emotional support), 0.64 (use of instrumental support), 0.71 (self-distraction), 0.54 (denial), 0.50 (venting), 0.90 (substance use), 0.65 (behavioral disengagement), and 0.69 (self-blame; Carver, 1997).

Positive generalizations. Positive Generalization (see Appendix D) was designed to measure generalizations from positive experiences in relation to self (University of Miami, n.d.). Psychometric properties were not shared for this scale. Positive Generalization has been seen in studies performed by Carver and Johnson (2009) and Eisner, Johnson, and Carver (2008).

Carver and colleagues (University of Miami, n.d.) identified three types of positive generalizations which range along the dimension from one positive experience to a general sense of self. These three types of generalizations are lateral, upward, and social. One item designed to identify lateral generalization was, “If I succeed at something, it makes me feel I will succeed in other areas as well.” Upward generalization was measured by items, such as the following, “If someone praises the way I express something, it makes me think I can write a popular book.” Social generalization was

identified by a few items, including the following, “When an attractive person smiles at me, I can tell it means s/he is hot for me.”

Life orientation test-revised. There were no psychometric measures available with the University of Miami (n.d) for The Life Orientation Test-Revised (LOT-R). However, the LOT-R (see Appendix E) has been used in behavioral, affective, and health research to determine generalized optimism and pessimism. The LOT-R test is a measure of optimism versus pessimism dimension (Carver, Scheier, & Segerstrom, 2010; University of Miami, n.d.).

Family coping coherence index. The Family Coping-Coherence Index (see Appendix F) has an internal reliability score of 0.71 and a test-test reliability score of 0.83 (McCubbin et al., 1996). There are four items in this scale measuring acceptance of stressful events, acceptance of difficulties, making a positive appraisal of a problem, and having faith in God. The four items are based on a 5-point Likert scale with points ranging from one to five for strongly disagree to strongly agree (McCubbin et al., 1996).

Family hardiness index. The Family Hardiness Index (see Appendix G) has a reliability score of 0.82 with internal reliability scores of 0.81, 0.80, and 0.65 respectively, for the subscales commitment, challenge, and control (McCubbin et al., 1996). The test-test reliability estimate for this scale is 0.86. There are 20 items in the Family Hardiness Index. Responses may either be false, mostly false, mostly true, true, and not applicable. The values for these responses are 0 for false and not applicable, 1 for mostly false, 2 for mostly true, and 3 for true. Nine items have reverse coding where false equals 3, mostly false equals 2, mostly true equals 1, true equals 0, and not applicable equals 0. These are for items number 1, 2, 3, 8, 10, 14, 16, and 19. The sum of the scores

for each response was taken to create an overall score for hardiness (McCubbin et al, 1996).

Family crisis oriented personal evaluation. The Family Crisis Oriented Personal Evaluation (F-COPES; see Appendix H) scale consists of 30 coping behavior items which test the manner in which family members handle difficulties and problems between each other, and the manner in which the family and its members handle external problems. There are five subscales within the F-COPES with high internal reliability estimates: acquiring social support, reframing, seeking spiritual support, mobilizing family to acquire and accept help, and passive appraisal. F-COPES has high internal reliability ($r=0.86$) with a significantly high test-retest reliability score of 0.81 (McCubbin et al., 1996).

The purpose of using the F-COPES is to create a score for meaning in life. This score was calculated by summation of the numbered response for all 30 items of the F-COPES. Participants' responses were scored accordingly. A score of one was given for never, two for seldom, three for sometimes, four for frequently, or five for always. Four items of the F-COPES have reverse coding, items 12, 17, 26, and 28, for which an original score of one equals five, a score of two equals four, a score of three remains three, a score of four equals two, and a score of five equals one (McCubbin et al., 1996).

Rotter's internal-external control of reinforcement index. The Rotter Internal-External Control of Reinforcement Index (Rotter's I-E Scale; see Appendix I) was used to determine an individual's sense of empowerment. There were 29 pairs of statements in this survey with 23 maximum points. Each pair of sentences contained one external control statement and one internal control statement. There were also six pairs of

statements which were considered filler sentences. One point was assigned for each selected external locus of control statement and no points were attributed to internal locus of control statements. There were different increments of locus of control with individuals falling along different aspects of the Rotter's I-E scale numerical spectrum. Individuals exercising internal locus of control had a score close to zero while individuals exhibiting external locus of control had a score closer to 23. Test-retest reliability estimates were $r=0.55$ and internal consistency was given as $r=0.69$ (Rotter, 1966).

Operationalization of Constructs

Optimism is defined as a positive outlook on life that is related to hope (Wong & Lim, 2009). Resilience is a construct that is associated with hardiness because it describes an individual's ability to maintain relative stability during adverse conditions (He et al., 2013). Sense of coherence is a self-enhancing property which may create intrapersonal adjustment, especially after a crisis (Hevey & French, 2012). Meaning in life is a cognitive personality trait that is a byproduct of sense of coherence, the understanding of existence, a sense of purpose, setting goals for life, achieving these goals, and a feeling of satisfaction or self-fulfillment once these goals have been actualized (Ho, Cheung, & Cheung, 2010). Perception of control is also known as locus of control because it describes an individual's subjective view of the manageability of a situation (Rotter, 1966). Positive illusions are cognitive misattributions which may offer positive result (Vosgerau, 2010; Young, 2014).

Optimism was measured by the Life Orientation Test-Revised, resilience by the Family Hardiness Index, sense of coherence by the Family Coping-Coherence Index, meaning in life by the Family Crisis Oriented Personal Evaluation Scale, perception of

control by Rotter's I-E Scale, and positive illusions by the Positive Generalizations Scale. Additionally, quality of life was measured by the Brief-COPE scale.

The aforementioned instruments were used to create one file. The survey questions were multiple choice questions for which only one correct answer could be given. For all scales and all participants, a quantitative score was created for each construct by summing the individual items in each instrument.

Data Analysis Plan

The data were analyzed using SPSS software (v. 21.0; Armonk, New York). Pre-analysis screening included screening for missing data and screening for outliers using Mahalanobis distance. Normality, linearity, and homoscedasticity were also assessed. The results were provided in the form of tables and R^2 , R^2_{adj} , change in R^2 , F , and p values.

For this study, there were three research questions. Factor analysis, stepwise multiple regression, and standard multiple regression analyses were used to answer these questions. Factor analysis was utilized to assess the significant components among the list of positive cognitions. Stepwise multiple regression analysis was used to predict the relative significance of the six independent variables (i.e., optimism, sense of coherence, meaning found in life, perception of control, resilience, and positive illusions) on one dependent variable (i.e., quality of life). Standard multiple regression analysis was chosen to reveal the overall significance of all positive cognitions on quality of life.

The research questions and associated hypotheses for the present study are presented here. Research Question 1: What is the relative significance or contribution for the variables, positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence in predicting quality of life?

*H*₀1: There is no significant correlation between the independent variables (i.e., positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence) and the prediction of quality of life.

*H*_A1: There is a significant correlation between all or some of the independent variables (i.e., positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence) and the prediction of quality of life.

Research Question 2: Can positive illusions be included among the list of significant cognitive factors which advance quality of life?

*H*₀2: Positive illusions cannot be included among the list of significant cognitive factors which advance quality of life.

*H*_A2: Positive illusions can be included among the list of significant cognitive factors which advance quality of life.

Research question three was designed to test the overall significance of six cognitive factors in the enhancement of quality of life using standard multiple regression analysis.

*H*₀3: The model consisting of optimism, resilience, sense of coherence, meaning in life, perception of control, and positive illusions does not predict the advancement of quality of life.

*H*_A3: The model consisting of optimism, resilience, sense of coherence, meaning in life, perception of control, and positive illusions predicts the advancement of quality of life.

Threats to Validity

The instruments utilized in this study were approved for use by their published owners. The published reliability estimates were adequate. However, there are many scales that are currently used to measure each of these constructs, some of which may be more powerful instruments than the ones chosen for this study. Moreover, meaning in life, sense of coherence, optimism, locus of control, resilience, and optimism are distinct constructs which may have been collinear. Multiple regression and factor analyses were important analytical methods that did not detect collinearity, an element which is typically associated with poor results (Mertler & Vannatta, 2010).

Ethical Procedures

A research proposal, including consent forms and questionnaires needed for this study, was assembled and submitted for review by the Institutional Review Board (IRB) of Walden University. The IRB released its approval with the identification numbers 2013.11.22.10:35:45-06'00'. The IRB protects the rights of the study participants to ensure that the study meets proper ethical criteria of the United States government, the American Psychological Association (APA), and Walden University. The results of this study are intended to be shared among members of the scientific community.

This research was meant to be anonymous with no known risk to participants. There was no coercion or intimidation involved in this Internet-based study. The researcher did not ask any question that deviated from HIPAA laws, and participants were able to terminate the study at any time. There were questions concerning the management of stress which included substance use and family history. Participants did

not have to answer these questions because of the option to either skip the question or exit the study.

Summary

This quantitative study was guided by three key research questions. To address these questions, adult internet users were recruited for this anonymous study following the ethical guidance of the Internal Revenue Board. Participants were asked to complete the following questionnaires, Brief-COPE, Life Orientation Test-Revised, Family Coping-Coherence, Rotter's Internal-External Locus of Control Reinforcement scale, Family Crisis Oriented Personal Evaluation inventory, Positive Generalizations scale, and an 8-item questionnaire regarding language spoken, education, approximate age, and caregiving. Data were assessed through stepwise multiple regression, factor analysis, and standard multiple regression analysis. Survey Monkey, a professional online research company, was retained for recruitment and data collection. Data were exported to the Excel and SPSS systems of the researcher's personal computer. Chapter 4 displays the results acquired from the methods described in this chapter.

Chapter 4: Results

Introduction

Stress and strain contribute to the reduction of quality of life. Individuals may not have control over external forces which cause the quality of life to deteriorate; however, they have control over intrapersonal forces within themselves. Forces of the mind have the potential to bolster and support human beings through periods of stress until changes in the quality of life are actualized (Antonovsky, 1998). These forces have been labeled as positive cognitive biases or positive cognitions (Cummins & Nistico, 2002; Zauszniewski et al., 2009). The cognitive forces optimism, resilience, perception of control, meaning found in life, and sense of coherence have been associated with improved quality of life in research (Young, 2014). A sixth variable, positive illusions, has also been identified as a cognitive marker with possible associations with improved quality of life (Taylor & Brown, 1988; Young, 2014). Although illusions have been traditionally conceptualized as a psychopathological variable, it may be possible that individuals are able to transcend the worst circumstances through a blind view on reality (Bandura, 1997).

This quantitative study was employed to examine positive cognitions, which are psychological factors that are expected to promote quality of life. Optimism, sense of coherence, meaning in life, perception of control, and resilience are known positive cognitions, while positive illusions is a possible candidate for addition among this list of positive cognitions (Zauszniewski et al., 2009). This research was conducted to reveal any possible correlations and/or inter-relationships between cognitive factors (i.e.,

positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence) and quality of life.

The study was governed by three research questions. Research Question 1 was conducted through stepwise multiple regression analysis to determine the individual value of each of the six positive cognitions (i.e., optimism, resilience, sense of coherence, meaning in life, perception of control, and positive illusions) on quality of life. Research Question 2 was addressed through factor analysis to determine the order of significance of each the positive cognitions. Research Question 3 involved the utilization of standard multiple regression technique to determine the collective value of the six cognitive forces on quality of life. The research hypotheses relating to research questions are listed below.

H₀₁: There is no significant correlation between the independent variables (i.e., positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence) and the prediction of quality of life.

H_{A1}: There is a significant correlation between all or some of the independent variables (i.e., positive illusions, optimism, resilience, meaning found in life, perception of control, and sense of coherence) and the prediction of quality of life.

H₀₂: Positive illusions cannot be included among the list of significant cognitive factors which advance quality of life.

H_{A2}: Positive illusions can be included among the list of significant cognitive factors which advance quality of life.

H₀₃: The model consisting of optimism, resilience, sense of coherence, meaning in life, perception of control, and positive illusions does not predict the advancement of quality of life.

H_{A3}: The model consisting of optimism, resilience, sense of coherence, meaning in life, perception of control, and positive illusions predicts the advancement of quality of life.

The research was collected through an online service, Survey Monkey, and involved querying 180 adult volunteer participants, and specifically targeted caregivers, although some non-caregivers did participate. Forty-eight percent of the participants were informal caregivers and 52% of the participants were not informal caregivers. The number of formal unpaid caregivers was approximately 8% of the total number of participants. The actual participation was inconsistent with the original study design which was intended to capture a sample of informal unpaid caregivers.

Participants were asked to complete a 152-question survey. Seventy-seven percent of the original number of participants opted to complete the survey. Answers to the survey questions provided information regarding the basic demographic profile of the participants and details regarding the value of cognitive forces in participants' lives. Since the participants were a mixed group of caregivers and non-caregivers, the study's results are easier to generalize to the normal population.

Data Collection

I focused on individuals who expressed a willingness to participate in this study. The study was originally designed for informal caregivers involved in family care. Approximately half of the participants did not identify themselves as informal caregivers involved in family care, although the sample predominantly consisted of unpaid caregivers. There were also formal paid caregivers among the participants. Otherwise, data collection proceeded as planned. Data collection was conducted through the Survey

Monkey system over a 24-hour period between November 26 and 27, 2013. The data were exported from this system to my password protected computer.

Data checking commenced shortly thereafter. Seventy-seven percent of the original participants (138 of the 180 participants) completed the survey, with all participants who completed the survey meeting the study requirements, such as exhibiting a fluency in English and being 18 years or older. It is possible that survey length, time constraints, and lack of interest may have individually or collectively resulted in some participants withdrawing from survey completion.

Demographic Profile of Participants

There were 180 participants who volunteered and filled out at least the basic demographic information on the online survey. Of these 180 individuals, 179 individuals identified their age as 18 years and older, 177 individuals identified language fluency in English, 170 individuals had completed high school, 129 individuals had been enrolled in a college, while 49 individuals had never attended college.

Forty-eight percent of the respondents cared for a family member, whereas the remaining 52% did not. Ninety-two percent were unpaid caregivers, while 8% were paid, of whom 36% maintained their caregiver position for at least 6 months and the remaining 64% did not. Forty-one percent of the participants skipped the question regarding frequency of care, 34% offered care on a daily basis, 9% on a weekly basis, and 16% on a monthly basis (see Table 1).

Table 1

Demographics

Demographic	<i>N</i>	%
Age 18 or older	179	99.4
Fluency in English	177	98.3
High school educated	170	94.4
College enrolled	129	71.7
Never attended college	49	27.2
Family member care	87	48.3
Non-family member care	93	51.7
Paid caregivers	14	7.78
Unpaid caregivers	165	91.7
Refused to respond	1	0.556
Months as a caregiver		
0-6 months	63	35
6+ months	114	63.3
Refused to respond	33	1.7
Frequency of caregiving		
Daily	62	34.4
Weekly	17	9.44
Monthly	28	15.4
Refused to respond	73	40.6

Results

When employing multivariate regression methods, preliminary data analysis screening is required to ensure data meets the statistical assumptions. This preliminary screening includes a test for missing data and cases which are considered outliers due to extreme measurement variability. Tests for normality, linearity, and homogeneity on the univariate and multivariate levels were also performed in this study based on recommendations (Mertler & Vannatta, 2010). Since data met these statistical

assumptions (i.e., normality, linearity, and homogeneity), the statistical analyses required to assess individual hypotheses could be conducted.

Upon commencing data analysis, frequency statistics were used to reveal valid and missing case quantity (see Table 2), in addition to testing for mean, standard error and standard deviation associated with each independent variable (see Table 3). Missing values (see Table 2) were replaced for optimism, perception of control, meaning in life, resilience, quality of life, and positive illusions using linear interpolation. However, there were no missing values for sense of coherence and therefore, data transformation was not performed for this variable. Screening for univariate and multivariate outliers was conducted using Mahalanobis' distance based on Mertler and Vannatta's (2010) specifications. The chi-square value used for this screening was $\chi^2(6) = 22.5$ at $p < 0.001$. Four outliers were greater than 22.5, and thus these cases were eliminated.

Table 2

Frequency Distribution Values for Each Variable

Variables	Number of cases	
	Valid	Missing
Optimism	137	6
Perception of Control	132	11
Sense of Coherence	143	0
Meaning Found in Life	123	20
Resilience	118	25
Quality of Life	110	33
Positive Illusions	127	16

Table 3

Mean and standard deviation for central tendency

Variable	<i>M</i>	Standard error	Standard deviation
Optimism	18.5	.268	3.14
Perception of Control	37.6	.288	3.31
Sense of Coherence	15.6	.224	2.27
Meaning in Life	98.4	1.58	17.5
Resilience	52.3	.629	6.83
Quality of Life	57.4	1.21	12.7
Positive Illusions	52.0	1.00	11.3

Descriptive and Inferential Statistics for the Sample

In this sample, many individuals were willing to vent (46%), seek help (64%) or seek counsel (56.1%; see Tables 4, 5, and 7, respectively). Most of the participants believed (71%) that their family had the ability to solve their problems (see Table 6), and many participants had faith in god (66.9%; see Table 13). The participants were mostly realists (see Tables 9, 10, 11 and 12). For example, 56.7% agreed to having high expectations even in uncertain times (see Table 9), 77.1% agreed with accepting stressful events as a fact of life (see Table 10), 81.1% agreed that difficulties occur unexpectedly (see Table 11), and 70.3% defined family problems in a positive manner to prevent discouragement (see Table 12).

Acceptance and realism were hallmarks of healthy psychological functioning in this sample. Venting was used as an emotion-focused coping strategy by many participants who were aware that life can be unpredictable and stressful. Participants' coping flexibility was based on internal factors, such as having a positive perspective

through positive reframing and external factors. Religion and different forms of support (i.e., emotional, instrumental, and social) were examples of external coping tools utilized.

Table 4

Frequency and percent of sharing difficulties with relatives

Answer Selection	<i>n</i>	%
Strongly disagree	13	8.8
Moderately disagree	23	15.5
Neither agree nor disagree	44	29.7
Moderately agree	50	33.8
Strongly agree	18	12.2

Table 5

Seeking support and encouragement from friends

Answer Selection	<i>n</i>	%
Strongly disagree	5	3.4
Moderately disagree	16	10.9
Neither agree nor disagree	32	21.8
Moderately agree	66	44.9
Strongly agree	28	19.1

Table 6

Knowing the family has the power to solve major difficulties

Answer Selection	<i>n</i>	%
Strongly disagree	1	0.7
Moderately disagree	8	5.4
Neither agree nor disagree	34	23.0
Moderately agree	70	47.3
Strongly agree	35	23.7

Table 7

Accepting counsel from other families with the same or similar problem

Answer Selection	n	%
Strongly disagree	6	4.1
Moderately disagree	15	10.1
Neither agree nor disagree	44	29.7
Moderately agree	55	37.2
Strongly agree	28	18.9

Table 8

Unpleasant incidences balanced by the good

Answer Selection	n	%
False	17	11.0
Mostly false	23	14.9
Mostly true	95	61.7
True	19	12.3

Table 9

Best expectations even in uncertain times

Answer Selection	n	%
I disagree a lot	5	2.9
I disagree a little	23	13.5
I neither agree nor disagree	46	26.9
I agree a little	63	36.8
I agree a lot	34	19.9

Table 10

Accepting stressful events as a fact of life

Answer Selection	n	%
Strongly disagree	2	1.4
Disagree	5	3.4
Neutral	27	18.2
Agree	79	53.4
Strongly agree	35	23.7

Table 11

Accepting that difficulties occur unexpectedly

Answer Selection	n	%
Strongly disagree	1	0.7
Disagree	10	3.4
Neutral	33	14.9
Agree	70	56.8
Strongly agree	34	24.3

Table 12

Defining family problems positively to prevent discouragement

Answer Selection	n	%
Strongly disagree	1	0.7
Disagree	10	6.8
Neutral	33	22.3
Agree	70	47.3
Strongly agree	34	23.0

Table 13

Faith in God as a source of encouragement

Answer Selection	n	%
Strongly disagree	20	13.5
Disagree	6	4.1
Neutral	23	15.5
Agree	34	23.0
Strongly agree	65	43.9

Research Question 1: Predicting the Individual Value

Stepwise multiple regression analysis was employed to address research question one. The statistical tests were computed according to estimates, model fit, change in R^2 , descriptives, part and partial correlation, and collinearity diagnostics. The entry level probability value of F was 0.05 and the exit level probability of F was 0.1. Tolerance

levels and variance inflation factor for all variables were approximately 1.0 to indicate that multicollinearity did not exist among the independent variables. The standard error for model estimation was considered high, 11.2.

The correlation values indicated that positive illusions have a significantly negative correlation with quality of life ($r=-0.198$, $p=0.005$; see Table 14). Thus, increases in positive illusions lower quality of life. Meaning in life ($r=0.187$, $p=0.007$), sense of coherence ($r=0.128$, $p=0.034$), and perception of control ($r=0.131$, $p=0.031$) have a significantly positive relationship with quality of life (see Table 14) which results in quality of life increasing with increases in meaning in life, sense of coherence, and perception of control. Conversely, quality of life decreases with decreasing meaning in life, sense of coherence, and perception of control.

Positive illusions have a significant negative correlation with meaning in life ($r=-0.261$, $p<0.001$), and a significantly positive correlation with optimism ($r=0.235$, $p=0.001$; see Table 14). Therefore, although positive illusions are related to optimism, they do not facilitate meaning in life. Resilience has a significantly positive relationship with sense of coherence ($r=0.124$, $p=0.036$; see Table 14) and a significantly negative relationship with optimism ($r=-0.135$, $p=0.028$; see Table 14). Changes in resilience result in corresponding changes in sense of coherence while increases in optimism result in dampening resilience. Sense of coherence and meaning in life have a significant positive correlation ($r=0.533$, $p<0.001$; see Table 14) with increasing levels of sense of coherence resulting in increases for meaning in life. Meaning in life and optimism have a significantly negative correlation ($r=-0.126$, $p=0.035$; see Table 14), which means that meaning in life is compromised in the presence of optimism. However, perception of

Table 15

Regression coefficients associated with stepwise multiple regression

Model	Coefficients				
	Unstandardized		Standardized		Sig.
	<i>B</i>	Std. Error	β	<i>t</i>	
1 (Constant)	68.8	4.76	----	14.5	<.001
Positive Illusions	-.212	.090	-.198	-2.36	.020

Research Question 2: Predicting the Inclusion of Positive Illusions

In relation to research question two, factor analysis was employed to investigate whether positive illusions significantly contributed to positive cognitions. Factor analysis was conducted three times on all variables, using varimax rotation with Kaiser Normalization. Initially, an eigenvalue of 1.0 was utilized to determine the number of components to retain. Three components were retained, but the percentage of nonredundant residuals with absolute values greater than 0.05 was 66%. An eigenvalue of 0.667 was utilized to produce four components and 57% non-redundant residuals. An acceptable number of residuals were produced with an eigenvalue of 0.50. Here, five components were extracted with 14% nonredundant residuals.

The rotated component matrix revealed that sense of coherence (0.899) and meaning in life (0.834) were the primary components among positive cognitions. The second significant component was positive illusions (0.962). Perception of control was the third significant component (0.986). Resilience was the fourth significant component (0.994), and optimism was the fifth significant component (0.981; see Table 16). This means that from the greatest to the least, the order of significance for these positive

cognitions was sense of coherence, followed by meaning in life, then positive illusions, perception of control, resilience, and optimism.

Table 16

Loadings on each variable per component

Variables	Loadings				
	1	2	3	4	5
Sense of Coherence	.899*	.151	-.072	.042	-.043
Meaning in Life	.834*	-.305	.107	.070	-.040
Positive Illusions	-.063	.962*	.040	-.006	.119
Perception of Control	.015	.035	.986*	-.013	.118
Resilience	.081	-.008	-.013	.994*	-.064
Optimism	-.064	.119	.131	-.066	.981*

Research Question 3: Predicting the Collective Value

Standard multiple regression analysis was employed to test the significance of the effect of positive cognitions on quality of life. All independent variables, optimism, perception of control, meaning found in life, resilience, sense of coherence, and positive illusions were simultaneously entered into the analysis. The model consisting of the combined effect of all positive cognitions revealed no significant influence on quality of life, $R=0.294$, $R^2=0.086$, $R^2_{adj}=0.044$, $F(6, 131)=2.06$, $p=0.062$ (see Table 17).

Consistent with the results of stepwise multiple regression analysis, positive illusions were the only positive cognition that influenced quality of life ($B=-.212$, $\beta=-.199$, $t=-2.22$, $p=0.028$). At a value of 11.1, the standard error of estimate for the model was considered high. Tolerance values ranged from 0.636 to 0.964 and indicated no multicollinearity among the variables

Table 17

Regression coefficients associated with standard multiple regression

Model	Coefficients				
	Unstandardized		Standardized		Sig.
	<i>B</i>	Std. Error	β	<i>t</i>	
1 (Constant)	31.3	17.6	----	1.77	.078
Positive Illusions	-.212	.096	-.199	-2.22	.028
Resilience	.051	.184	.024	.280	.780
Meaning in Life	.060	.071	.087	.835	.405
Sense of Coherence	.371	.440	.085	.843	.401
Perception of Control	.476	.340	.121	1.40	.164
Optimism	.286	.341	.075	.840	.403

Summary

The purpose of the employed methods was to gather more information about how positive cognitions relate to each other and affect quality of life. The study was guided by three research questions. The first question employed a stepwise multiple regression analytical technique to test the order of significance of the proposed positive cognitions on quality of life. The second question aimed to determine whether positive illusions may be included among the group of positive cognitions. This question was answered by using factor analysis. The third question utilized standard multiple regression analysis to test for the significance of the combined effect of all the positive cognitions on quality of life.

The results from question one revealed that positive illusions were the only variable affecting quality of life. Positive illusions were found to have a negative influence on quality of life $\beta = -.198$, $t = -2.36$, $F = 5.58$, $p = .02$, $R^2 = .039$. All the other proposed positive cognitions were excluded from the model. Thus research hypothesis H_{A1} proved to be true for positive illusions and not for the other variables, optimism, resilience, meaning found in life, perception of control, and sense of coherence because

only positive illusions had a significant correlation with quality of life. Research hypothesis H₀₁ prevailed for optimism, resilience, meaning in life, perception of control, and sense of coherence.

For research question two, sense of coherence, followed by meaning in life, had the strongest factor loadings in component one; positive illusions had the strongest factor loading in component two; perception of control was strongest in component 3; resilience was strongest in component 4, while optimism was strongest in component 5. Based on these results it is evident that H_{A2} is true and positive illusions are significant among the group of cognitive factors. These results also indicate that sense of coherence and meaning of life are the strongest positive cognitions and optimism is the weakest positive cognitive factor.

Lastly, the findings associated with question three revealed that H₀₃ is true since the combined effect of positive cognitions had no significant influence on quality of life, $R=.294$, $R^2=.086$, $R^2_{adj}=.044$, $F(6, 131) = 2.06$, $p = .062$, $R^2 = .086$. As with the results for research question one, the individual regression weights for optimism, resilience, sense of coherence, perception of control, and meaning in life revealed no significant relationship between these factors and quality of life. However, the individual regression weight for positive illusions indicated a significant negative relationship with quality of life.

The effect size for both regression analyses was small, $R^2=.086$ for standard multiple regression, and $R^2=.039$ for stepwise multiple regression. Correlational analysis did not predict regression results. There was one exception. Correlation results for positive illusions predicted the results of regression analyses. These results indicated that

positive illusions are potent positive cognitions. The standard error of estimate was very high, indicating the results should be interpreted with caution when used to describe the larger population. Nonetheless, a sample of individuals with stable psychological functioning was captured fulfilling one of the study's criteria. Chapter 5 is reserved for an explanation of these results.

Chapter 5: Summary and Conclusions

Introduction

The goal of this study was to quantitatively analyze quality of life enhancement through the positive cognitions of optimism, resilience, sense of coherence, perception of control, meaning found in life, and positive illusions. The sample was derived from the normal adult population of psychologically competent individuals. The participants were all fluent in English and identified themselves as caregivers, paid or unpaid, and non-caregivers. All participants were asked to complete a questionnaire on the levels of stress and coping as indicators of quality of life, and cognitive factors that advance quality of life.

This study was based on the premise that individuals overcome stress and strain through some level of self-deception to add hope in the midst of crises. This self-deception was labelled positive illusions. Research Questions 1 and 3 were designed to test the relationship among the self-enhancing cognitive factors, optimism, sense of coherence, meaning in life, perception of control, and resilience, and positive illusions, as promoters of quality of life. Research Question 1 was designed to examine the individual contribution and Research Question 3 was designed for the collective contribution of these cognitive variables on quality of life. Research question 2 was designed to identify the potency of positive illusions among the list of cognitive variables.

Positive psychology was chosen as the underlying paradigm for this study. The themes of positive psychology include the theory of salutogenesis (Antonovsky, 1979). Salutogenesis is a focus on well-being through a reappraisal process which involves a sense of coherence. The dynamic equilibrium model, adopted by Cummins and Nistico

(2002), describes a tendency towards balance and recovery during periods of stress. The family systems and the family resilience theories describe factors that contribute to individual and family strength (Eggenberger et al., 2011; Yi, 2009).

The six cognitive independent variables, optimism, sense of coherence, meaning in life, perception of control, positive illusions, and resilience were tested for their unique and combined influence on quality of life using stepwise and standard multiple regression analysis respectively. The results were interpreted with caution because observed error rates were high for multiple regression analyses. Data analysis, using standard and stepwise multiple regression, revealed that positive illusions had a unique and significantly negative influence on quality of life. Optimism, resilience, sense of coherence, meaning in life, and perception of control had a non-significant influence on quality of life. Correlation values indicated a negative relationship between positive illusions and quality of life. Factor analysis revealed the order of significance of the positive cognitions studied with sense of coherence and meaning in life dominating the list of positive cognitions. The third most powerful cognitive force was positive illusions, followed by perception of control, resilience, and optimism.

In the presence of positive illusions, optimism, resilience, perception of control, meaning in life, and sense of coherence did not have a positive significant influence on quality of life. This was evident through the standard method of simultaneously adding all variables to the regression analysis, and through the stepwise method of adding variables by order of value to regression analysis. Correlation values revealed that only meaning in life, sense of coherence, and perception of control had a positive significant

relationship with quality of life. Meaning in life and sense of coherence were the strongest cognitive factors in factor analysis.

Positive cognitions do not have equal importance in life because one cognitive factor will usually predominate. Positive cognitions' influence on quality of life and their relationship to each other depends on different factors on the psychological, physiological, and social levels. The standard error of estimate for this study may have been high because positive cognitions do not have unique significance in life. Cognitive values change in life depending on the individual and the situation. Situations also change according to the phase in each life (Ju et al., 2013). Therefore the standard error of estimate for this study was a reflection of many changes.

Interpretation of Findings

Positive states of being involve positive cognitions (Patnaik, 2013; Wong & Lim, 2009). Positive cognitions influence well-being through changes in mindset, emotional and physical resilience, attention, behavior, intuition, creativity, happiness, longevity, immune function, and other body systems (Patnaik, 2013). Positive cognitions are effective when individuals set attainable and objective goals, develop avenues that lead to goal achievement, and are willing to change goals when needed (O'Keefe & Wingate, 2013).

Positive cognitions defined as hope are based on beliefs that the object of hope can be realized (Dorsett, 2010). Positive cognitions also promote quality of life when goals are realistic and achievable (Cohen & Cairns, 2012). Participants in the current study were mainly realists who exemplified coping flexibility, adaptation, and healthy

psychological functioning. These participants were likely to set practical goals towards the development of the quality of life.

Consistent with literature (e.g., Siman-Tov & Kaniel, 2011), sense of coherence had a significantly positive relationship with quality of life ($r=0.128, p=0.034$) and resilience ($r=0.124, p=0.036$) in this study. These results suggest that improved levels of sense of coherence are associated with improved quality of life and improved resilience, while deteriorating levels of sense of coherence are associated with decreased quality of life, and reduced resilience. Although resilience has had a positive relationship with both optimism and quality of life in many studies (e.g., Cohrs et al., 2013; He et al., 2013; Ju et al., 2013; Mautner et al., 2013), in the present study, resilience had a negative correlation with optimism ($r=-0.135, p=0.001$) and no significant correlation with quality of life ($r=0.039, p=0.163$). Thus, contrary to studies which suggest that improved resilience is associated with increased levels of optimism, in this study improved resilience is associated with decreased optimism, while decreasing resilience is associated with more optimism. Based on this study, one would expect improved resilience to have no significant association with either increasing or decreasing levels of quality of life, and decreased resilience would have no significant effect on quality of life.

The current study supported current knowledge on perception of control (e.g., Mishra, 2013; Siman-Tov & Kaniel, 2011) by revealing a significant positive correlation with quality of life ($r=0.131, p=0.031$) and optimism ($r=0.242, p=0.001$). The current results suggest improved perception of control is associated with improved quality of life and optimism. The observed relationship between meaning in life and quality of life supported current literature (e.g., Eakman, 2014), where meaning in life improved quality

of life. The observed relationship between meaning in life and sense of coherence correlated with literature (e.g., Ho et al., 2010), and the observed relationship between meaning in life and optimism was also based on some studies (e.g., Ju et al., 2013). Meaning in life and sense of coherence are scientifically intertwined. Moreover, meaning in life is a positive predictor of optimism, where increased optimism is usually associated with an increased sense of meaning in life (Ho et al., 2010).

All correlation values were weak (below 0.250), with the exception of the relationship between sense of coherence and meaning in life ($r=0.533$, $p<0.001$). The fairly strong correlation between sense of coherence and meaning in life was expected because they are conceptually similar constructs (Ho et al., 2010). The results from correlation analyses could not be validated by regression analyses for any other variable except positive illusions. Meaning in life, perception of control, and sense of coherence predicted quality of life in correlation analysis, but not in regression analysis. It is possible that the significance of other cognitive factors in regression analyses may have been affected because of the presence of positive illusions. Irrespective of the method used, positive illusions were observed to be powerful cognitive factors. The potency of the positive illusions construct may have influenced the effect of the other cognitive factors in regression analysis.

Supporting the results from Novovic et al. (2012), this study provided suggestive evidence that cognitive factors do not always promote well-being. Cognitive factors are adaptive when a situation is amenable to change (Vosgerau, 2010). Cognitive factors are maladaptive when they distort reality and alter human potential to know truth (Vincze, 2011). As stated in literature (e.g., Dorsett, 2010) positive illusions may be

conceptualized as hope. Although hope may be adaptive, there is a certain type of hope that is based on false beliefs and will typically lead to poor outcome (Vincze, 2011).

The Positive Generalizations scale provided an approximate value for positive illusions by measuring hope on three different dimensions. Based on literature (Vincze, 2011), individuals who are realistic tend to experience better adjustment to life than individuals who are unrealistic. The participants were very realistic, as indicated by the responses on all measures, including the Positive Generalization scale. The results for this sample of participants revealed positive illusions do not have a positive influence on quality of life. Positive Generalizations may have been measuring more than positive illusions (i.e., illusion of control), and the additional element may have had a negative influence on quality of life (e.g., Vosgerau, 2010).

Based on factor analytical measures, this study indicates that meaning in life may be the first cognitive approach utilized in the presence of sense of coherence. This is important for proper assessment of any given situation to determine the best route of action for issues faced. Although individuals may not be able to overcome all aspects of a situation, individuals may be able to influence some aspects of their situation through some form of compensation (Sherman et al., 2012). Compensatory approaches may not be limited to cognitive factors.

Optimism, meaning in life, perception of control, resilience, and sense of coherence has had compensatory value in other studies (e.g., Cohrs et al., 2013; Eakman, 2014; Mautner et al., 2013; Mishra, 2013; Siman-Tov & Kaniel, 2011). In this study, the positive regression coefficients in multiple regression analysis, and correlation values were indication that these factors may have compensatory value. The value of these

constructs in nature depends on goals that individuals have created (Bandura, 1997). In scientific studies, the confirmation of the value of cognitive factors also depends on the conceptualization and measurement of the variables (Young, 2014).

Limitations of the Study

An increase in the sample size may have been beneficial due to the influence on power and effect size. However, as power increases, type I error also increases, contributing to false analysis and reporting (Mertler & Vannatta, 2010), so this sample size may have been adequate. The tolerance value was acceptable, providing evidence that multicollinearity was not an issue in the regression model. Nevertheless, the standard error of estimate was high and eigenvalues less than 1.0 were utilized to obtain acceptable residuals. Ideally, eigenvalues should have been greater than 1.0 (Mertler & Vannatta, 2010).

This is the first study known to incorporate six cognitive independent variables without a covariate on the physiological and social level. The use of six cognitive variables with no covariates may have confounded the study's results. Quality of life also depends on physiological and social states (van der Spek et al., 2013). For example, dispositional optimism was used to assess quality of life in persons suffering from localized scleroderma, using anxious preoccupation, helpless-hopeless behaviors (the coping strategies), and physical condition as the covariates (Szramka-Pawlak et al., 2013).

The study was originally based on concern for the impact of stress on informal unpaid caregivers. Instead, the sample collected was more representative of the general population. Participants were either paid or unpaid caregivers, and there was also a

collection of individuals who were not caregivers. The results of this study may not have been different if the sample was more representative of the original design because stress and strain are common to mankind. Stress and strain have been known to result in similar biopsychosocial problems regardless of their origin (Oitzl et al., 2010). Caregiving is one kind of strenuous lifestyle, but stress and strain have many sources not restricted to the experiences of caregivers.

The questionnaire used consisted of seven relatively old questionnaires which may not have captured recent developments in literature. Several instruments have been created in more recent years which may provide more reliable measurements of optimism, resilience, sense of coherence, perception of control, meaning in life, positive illusions, and quality of life. The Meaning in Life Questionnaire was used by Ju et al. (2013) to measure meaning in life instead of the F-COPES questionnaire that was implemented in this study. Measurement inconsistency was also apparent because some items measured individual strengths and weaknesses while other items measured family strengths and weaknesses. It may have been useful to measure individual or family issues, not both in the same study at the same time.

Recommendations

Findings from this study indicated that quality of life is not primarily dependent on cognitive variables. Non-cognitive factors were not the focus of this study, but non-cognitive factors may have more direct influence on quality of life with cognitive factors serving as mediators. This study may be repeated using at least one non-psychological covariate because research has established that physiological and social variables play a

role in quality of life enhancement (e.g., Ahlert & Greeff, 2012; Edo et al., 2012; Silarova, et al., 2012).

The mechanisms regarding the causal effectiveness of positive cognitions have been difficult to assess in many studies (e.g., Newton-John, Mason, & Hunter, 2014). Some authors recommend the use of longitudinal methods of study for better interpretation of cause and effect (e.g., Rauch et al., 2013). However, cross-sectional methods were utilized in this study to answer the research questions. Cause and effect or the path taken by these positive cognitions may have been evident if this study were longitudinal.

The questionnaire used to collect data was too long. Many of the items focused on measuring elements that were beyond the scope of this study, having no direct relevance to the research questions. Questions measuring the relevant variables were masked by excessive questioning on elements which may have resulted in confounding results. For example, items measuring coping reactions towards stress were important, but they may have been reduced.

There may be no appropriate instrument for quality of life because it is based on psychological, physiological, and social factors (Mishra, 2013). It may not be possible to measure quality of life in a single study because each of the three subdivisions of quality of life has unique contributing factors. For example, religion, culture, social experiences, intrafamilial support, family problem solving, coping skills, flexibility, and adjustment to change also influenced quality of life (Ahlert & Greeff, 2012; Silarova, et al., 2012). Ju et al, (2013) demonstrated this concept by focusing on measuring subjective well-being instead of quality of life.

Implications for Positive Social Change

Value to the research community

The conceptualization of variables and the methodology employed may affect the results and interpretation of any study (Young, 2014). Psychological research regarding positive cognitions tends to be plagued with methodological and conceptual problems (Young, 2014). In this study, positive illusions were conceptualized as a form of self-deception associated with hope. Research has indicated that hope predicts quality of life when appraisals and goals are realistic and objective (Cohen & Cairns, 2012). The measurement of positive illusions may not have been pure. Illusion of control, a form pathological self-deception (Vosgerau, 2010), may have also been measured.

Value to individuals

Neckar (2013) observed an equally strong relationship between positive cognitions and adaptive or maladaptive coping. One reason for this finding is that cognitive factors are displaced and do not lead to good quality of life when the appraisal of the situation is unrealistic and goals are set too high (Bandura, 1997). The participants in this study were realistic and objective.

The employment of self-enhancing factors in the lives of individuals varies according to the nature of the individual and the situation (Newton-John et al., 2014). Although this study found that positive cognitions have little impact on general quality of life, there may be variations of these results depending on the nature of individual and the situation. For example, some individuals may employ positive illusions, while this may not be the case for other equally competent individuals (Young, 2014). The sense of coherence and the meaning one finds in life may be preliminary assessment tools needed

to determine the use of other factors, including and not limited to the other positive cognitive factors discussed.

The individual's disposition influences quality of life. Cognitive factors are considered dispositional traits, but cognitive resources become limited or altered during periods of stress (van der Spek et al., 2013). The responses to stress may be psychological, physiological, or emotional. The emotional processing of stress may be reported through negative and positive affect, which include optimism and other positive cognitions. The nature of the stressor influences coping style and these are related to coping appraisals. These coping appraisals are psychological or cognitive and affect expectations, interpretations, and evaluations (van der Spek et al., 2013).

Cognitive factors in nature

Psychological factors are not isolated in nature and the determinants of the quality of life are variable (i.e., psychological, social, and physiological; Mishra, 2013). Dufner et al. (2012) reported that positive cognitions are an overestimation of one's cognitive abilities. Cognitive abilities do not lead to improved quality of life when overemphasized. Although many aspects of the social and physiological well-being were ignored, this study was important in recognizing that psychological or cognitive factors may be effective when a proactive approach on social and physiological states of well-being is taken.

A proper balance among all factors that promote quality of life is important to enhance quality of life. For example, health-related quality of life requires social, physiological, and psychological states of well-being for stress prevention, management, and reduction (Witt et al., 2010). Resources such as social support may facilitate the

management of stress and alleviate distress through the empowerment of the individual, increasing the perception of control, and meaning in life (Apers et al., 2013; Simon-Tov & Kaniel, 2011).

Recommendations for practice

Positive cognitions, when combined with non-cognitive factors, influence quality of life (Mishra, 2013). The proper identification of the right combination of factors is important on an individual and situation specific basis. Professionals need to attempt to understand the individual and each situation to provide support so that individual needs may be met. The use of psychological research on stress and coping literature is recommended as a guide to meeting individual needs according to each challenge faced.

Conclusions

I reviewed literature that highlighted the importance of positive cognitions while attempting to focus on the relationship among these factors and their influence on quality of life. Positive cognitions are a collection of psychological agents of the positive psychology paradigm. Salutogenesis, the dynamic equilibrium model, the family systems, and family resilience theories form the basic framework for this study and they are encapsulated within the positive psychology paradigm. This paradigm describes psychological, social, and physiological factors which influence the experiences of happiness, meaningfulness, fulfillment, positive relationships, and ultimately quality of life (Cohrs et al., 2013; Mishra 2013; Novovic et al., 2012).

The positive cognitions optimism, resilience, meaning in life, sense of coherence, perception of control, and positive illusions have been called self-enhancing factors. Self-enhancing cognitive factors are viewed as having an equally strong relationship to

adaptive and maladaptive coping (Neckar, 2013), depending on the nature of the situation and the individual (Newton-John et al., 2014). The adaptive value of these cognitive factors is also influenced by the manner in which it is conceptualized, defined, and measured because improper conceptualization results in improper measurement, false readings, and evaluations (Young, 2014).

Young's (2014) predictions were evident in the current study where positive illusions were conceptualized as hope, but illusion of control may have also been measured. Illusion of control, which has been associated with unrealistic optimism (Taylor & Brown, 1988), appeared to have a negative impact on quality of life. The implication was that truth, and not self-deception, is a necessary agent for the advancement of quality of life.

In support of Pretorius (2009) conclusions, internal and external self-enhancing properties enrich quality of life. Cognitive factors, such as meaning in life, are among these internal self-enhancing properties (Bonanno, 2013). Internal self-enhancing properties may be labeled as positive cognitions (Zauszniewski et al., 2009) because they provide resistance to cope with life's stressors (Witt et al., 2010). Sense of coherence, optimism, perception of control, resilience, and positive illusions have also been identified as cognitive tools which may be necessary aids in promoting cognitive reassessment, adaptation, and flexibility. However, positive illusions have had a long standing association with illusions, delusions, unrealism until Taylor and Brown (1988) revealed that positive illusions are important in cognitive flexibility, adaptation, and resilience. Blease (2011), Cayley (2011), and Vincze (2011) also supported Taylor and Brown's (1988) claim.

Littman-Ovadia and Nir (2014) believed individuals who confidently focus on mastery are more likely to succeed when compared to individuals who harbor negative perceptions. Positive illusions are among the cognitive factors that are important in changes in mindset, reframing the thought processes during stressful events so crises may no longer seem insurmountable. Cognitive factors may serve to empower the individual by mentally lessening the severity of a problem and maintaining homeostatic balance (Lee, Ahn, Jeong, Chae, & Choi, 2014). I examined whether the process through which this occurs involves self-deception. The current results indicated self-deception does not contribute to the benefits of optimism, sense of coherence, meaning in life, perception of control, resilience, and positive illusions.

Successful coping under stress is important for maintaining the homeostatic functioning of the body to prevent this system from malfunctioning (Oitzl et al., 2010). The results of this study support the theory of Folkman and Lazarus (1980) regarding problem-focused and emotion-focused coping. Problem-focused coping can be external or internal and involves efforts to change or alter the nature of the problem. Situations are changed, and individuals are influenced through external problem-focused coping while new skills-sets and responses are developed through internal emotion-focused coping. In contrast, emotion-focused coping involves efforts to change the emotional impact of the problem. The current results seemed to imply that cognitive factors are inclined to contribute to quality of life through a practical approach which appropriately implements other psychological, social, and physiological variables. The differences in participants' responses also support the theory that differences exist in the effectiveness of the two

coping strategies depending on the situation and the individual's disposition (Monat et al., 2007).

In this study optimism had a negative correlation with quality of life and a positive correlation with positive illusions. Optimism was also the weakest cognitive factor identified by factor analysis. Optimism and positive illusions are self-protective agents known to impact subjective well-being due to more effective problem-focused coping and emotional self-regulation strategies (Kardemas & Giannousi, 2013).

However, studies in self-protective behaviors indicate individuals are less likely to exercise precaution when feeling optimistic. This occurs when positive expectancies result in persistence and refusal to resign after a goal has been lost (Carver et al., 2010). Carver et al. supported Bandura's (1997) statement that illusory judgments may be detrimental to the individual who is committed to a task that has a low probability of realization. Thus, in this study, resilience had a significant negative correlation with optimism and no significant correlation with positive illusions and quality of life.

Nonetheless, when appropriately utilized cognitive factors have the potential to mitigate rumination, depression, and suicidal ideation through a process that provides adaptation to pain and the challenges of life through problem-focused coping and more effective forms of emotion-focused coping (Hanssen et al., 2013; Smith et al., 2013; Tucker et al., 2013). Cognitive factors are personality factors which have the potential to lower distress and helplessness in spite of situations faced (Asberg & Renk, 2014; Edo et al., 2012). Cognitive factors predict coping effectiveness and have the potential to buffer negative affect while stabilizing mental health (He et al., 2013; Vollmann et al., 2014).

Cognitive factors may also create higher levels of reorganization and adjustment after a crisis because challenges are no longer viewed as threats (Eller et al., 2014).

The present study has been unique in its exclusive emphasis on the effects of cognitive factors, demonstrating the relative significance of these cognitive factors, individually, and combined, for the promotion of quality of life. This emphasis has been important in fulfilling two research gaps. The cognitive factors which have been associated with the advancement of quality of life had not yet been studied together. Additionally, the association between positive illusions and the known quality of life promoting cognitive factors (i.e., resilience, sense of coherence, meaning in life, optimism, and perception of control) needed clarification. These goals were successfully met in this study.

References

- AARP Public Policy Institute (2011). Valuing the invaluable: 2011 update, the economic value of family caregiving in 2009. Retrieved from assets.aarp.org/rgcenter/ppi/ltc/fs229-ltc.pdf
- Ahlert, I. A., & Greeff, A. P. (2012). Resilience factors associated with adaptation in families with deaf and hard of hearing children. *American Annals of the Deaf*, *157*(4), 391-404.
- Antonovsky, A. (1979). *Health, stress, and coping*. San Francisco, CA: Jossey-Bass.
- Antonovsky, A. (1998). The sense of coherence: An historical and future perspective. In H.I. McCubbin, E. A. Thompson, A. I. Thompson, J. E. Fromer (Eds.). *Stress, coping, and health in families: Sense of coherence and resiliency* (pp. 3-20). Thousand Oaks, CA: Sage Publications.
- Apers, S., Luyckx, K., Rassart, J., Goosens, E., & Budts, W. (2013). Sense of coherence is a predictor of perceived health in adolescents with congenital heart disease: A cross lagged perspective study. *International Journal of Nursing Studies*, *50*, 776-785. doi:10.1016/j.ijnurstu.2012.07.002
- Asberg, K., & Renk, K. (2014). Perceived stress, external locus of control, and social support as predictors of psychological adjustment among female inmates with or without a history of sexual abuse. *International Journal of Offender Therapy and Comparative Criminology*, *58*(1), 59-84. doi:10.1177/0306624X12461477.
- Aspinwall, L. G., & Tedeschi, R. G. (2010). The value of positive psychology for health psychology: Progress and pitfalls in examining the relation of positive phenomena to health. *Annals of Behavioral Medicine*, *39*, 4-15.

doi:10.1007/s1260-009-9153-0

- Bainbridge, D., Krueger, P., Lohfield, L., & Brazil, K. (2009). Stress processes in caring for an end-of-life family member: Application of a theoretical model. *Aging & Mental Health, 13*(4), 537-545. doi:10.1080/13607860802607322.
- Baker, J., & Berenbaum, H. (2011). Dyadic moderators of the effectiveness of problem-focused and emotional-approach coping interventions. *Cognitive Therapy & Research, 35*(6), 550-559. doi:10.1007/s10608-011-9386-7.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman and Company.
- Banerjee, P. (2012). Relationship between perceived psychological stress and depression: Testing moderating effect of dispositional optimism. *Journal of Workplace Behavioral Health, 27*, 32-46. doi:10.1080/15555240.2012.640582.
- Blackwell, S. E., Rius-Ottenhelm, N., Schulte-van Maaren, Y. W. M., Carlier, I. V. E., Middelkoop, V. D., Zitman, F. G., ... Giltay, E. J. (2013). Optimism and mental imagery: A possible cognitive marker to promote well-being? *Psychiatry Research, 206*, 56-61. doi:10.1016/j.psychres.2012.09.047
- Blease, C. (2011). Deception as treatment: The case of depression. *Journal of Medical Ethics, 37*(1). doi:10.1136/jme.2010.039913.
- Bonanno, G. A. (2013). Meaning making, adversity, and regulatory flexibility. *Memory, 21*(1), 150-156. doi:10.1080/09658211.2012.745572.
- Brennan, D. S., & Spencer, A. J. (2012). Social support and optimism in relation to the oral health of young adults. *International Journal of Behavioral Medicine, 19*, 56-64. doi:10.1007/s12529-010-9136-3.

- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the Brief COPE. *International Journal of Behavioral Medicine*, 4(1), 92-100.
- Carver, C. S., & Johnson, S. L. (2009). Tendencies toward mania and tendencies toward depression have distinct motivational, affective, and cognitive correlates. *Cognitive Therapy and Research*, 33, 552-569.
- Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Review Psychology*, 30(7), 879-889. doi: 10.1016/j.cpr.2010.01.006.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). COPE Inventory. Retrieved from <http://www.psy.miami.edu/faculty/ccarver/scICOPEF.html>.
- Cayley, W. E., Jr. (2011). The concise argument. *Journal of Medical Ethics: Journal of the Institute of Medical Ethics*, 37(1). doi:10.1136/jme.2010.041525
- Cohen, K., & Cairns, D. (2012). Is searching for meaning in life associated with reduced subjective well-being? Confirmation and possible moderators. *Journal of Happiness Studies*, 13, 313-331. doi:10.1007/s10902-011-9265-7
- Cohrs, J. C., Christie, D. J., White, M. P., & Das, C. (2013). Contributions of positive psychology to peace: Toward global well-being and resilience. *American Psychologist*, 68(7), 590-600. doi:10.1037/a00032089.
- Cummins, R. A., & Nistico, H. (2002). Maintaining life satisfaction: The role of positive cognitive bias. *Journal of Happiness Studies*, 3, 37-69.
- Daukantaitė, D., & Zukauskienė, R. (2012). Optimism and subjective well-being: Affectivity plays a secondary role in the relationship between optimism and global life satisfaction in the middle aged-women. Longitudinal and cross-cultural findings. *Journal of Happiness Studies*, 13, 1-16. doi:10.1007/s10902-

010-9246-2.

- De Castella, K., Goldin, P., Jazaieri, H., Ziv, M., Dweck, C. S., & Gross, J. J. (2013). Beliefs about emotion: Links to emotion regulation, well-being, and psychological distress. *Basic and Applied Social Psychology, 35*, 497-505. doi: 10.1080/01973533.2013.840632.
- Dezutter, J., Casalin, S., Wachholtz, A., Luyckx, K., Hekking, J., & Vandewiele, W. (2013). Meaning in life: An important factor for the psychological well-being of chronically ill patients. *Rehabilitation Psychology, 58*(4), 334-341. doi:10.1037/a0034393
- Dorsett, P. (2010). The importance of hope in coping with severe-acquired disability. *Australian Social Work, 63*(1), 83-102. doi:10.1080/03124070903464293.
- Dufner, M., Denissen, J. J. A., van Zalk, M., Matthes, B., Meeus, W. H. J., van Aken, M. A. G., & Sedikides, C. (2012). Positive intelligence illusions: On the relation between intellectual self-enhancement and psychological adjustment. *Journal of Personality, 80*(3), 537-571. doi:10.1111/j.1467-6494.2011.00742.x.
- Dunn, B. D., Stefanovitch, I., Buchan, K., Lawrence, A. D., & Dalgleish, T. (2009). A reduction in positive self-judgment bias is uniquely related to the anhedonic symptoms of depression. *Behavior Research and Therapy, 47*(5), 374-381.
- Eakman, A. M. (2014). A prospective longitudinal study testing relationships between meaningful activities, basic psychological needs fulfillment, and meaning in life. *Occupation, Participation, and Health, 34*(2), 93-105. doi:10.3928/15394492-20140211-01.
- Edo, S., Torrents-Rodas, D., Rovira, T., Fernandez-Castro, J. (2012). Impact when

receiving a diagnosis: Additive and multiplicative effects between illness severity and perception of control. *Journal of Health Psychology*, *17*(8), 1152-1160. doi: 10.1177/1359105311429727.

Eisner, L. R. Johnson, S. L., & Carver, C. S. (2008). Cognitive responses to failure and success relate uniquely to bipolar depression versus mania. *Journal of Abnormal Psychology*, *117*, 154-163.

Eller, L. S., Rivero-Mendez, M., Voss, J., Chen, W.-T., Chaiphibalsarisdi, P., Iiping, S., Johnson, M. O....Brion, J. M. (2014). Depressive symptoms, self-esteem, HIV symptom management self-efficacy and self-compassion in people living with HIV. *AIDS Care*, *26*(7), 795-803. doi:10.1080/09540121.2013.841842.

Eggenberger, S. K., Meiers, S. J., Krumwiede, N., Bliesmer, M., & Earle, P. (2011). Reintegration within families in the context of chronic illness: A family health promoting process. *Nursing and Healthcare of Chronic Illness*, *3*, 283-292.

Fenge, L-A., Hean, S., Worswick, L., Wilkinson, C., Fearnley, S., & Ersser, S. (2012). The impact of the economic recession on well-being and quality of life of older people. *Health and Social Care in the Community*, *20*(6), 617-624. doi: 10.1111/j.1365-2524.2012.01077.x.

Ferrer, R. A., Klein, W. M. P., Zajac, L. E., Sutton-Tyrrell, K., Muldoon, M. F., Kamarck, T. W. (2012). Unrealistic optimism is associated with subclinical atherosclerosis. *Journal of Health Psychology*, *31*(6), 815-820. doi:10.1037/aa0027675.

Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior*, *21*(3), 219-239.

- Galatzer-Levy, I. R., Burton, C. L., & Bonanno, G. A. (2012). Coping flexibility, potentially traumatic life events, and resilience: A prospective study of college student adjustment. *Journal of Social and Clinical Psychology, 31*(6), 542-567.
- Geers, A. L., Wellman, J. A., & Lassiter, G. D. (2009). Dispositional optimism and engagement: The moderating influence of goal prioritization. *Journal of Personality and Social Psychology, 96*(4), 913-932. doi:10.1037/a0014830.
- Golden, M. A., & Lund, D. A. (2009). Identifying themes regarding the benefits and limitations of caregiver support group conversations. *Journal of Gerontological Social Work, 52*, 154-170. doi:10.1080/01634370802561968.
- Greeff, A. P., & Nolting, C. (2013). Resilience in families of children with developmental disabilities. *Families, Systems, & Health, 31*(4), 396-405. doi:10.1037/a0035059.
- Gruber-Baldini, A. L., Ye, J., Anderson, K. E., & Shulman, L. M. (2009). Effects of optimism/pessimism and locus of control on disability and quality of life in Parkinson's disease. *Parkinson and Related Disorders, 15*, 665-669. doi:10.1016/j.parkreldis.2009.03.005.
- Gustavsson-Lilius, M., Julkunen, J., Keskivaara, P., Lipsanen, J., & Hietanen, P. (2012). Predictors of distress in cancer patients and their partners: The role of optimism in the sense of coherence construct. *Psychology and Health, 27*(2), 178-195.
- Hanssen, M. M., Peters, M. L., Vlaeyen, J. W. S., Meevissen, Y. M. C., Vancleef, L. M. G. (2013). Optimism lowers pain: Evidence of the causal status and underlying mechanisms. *Pain, 154*, 53-58. doi:10.1016/j.pain.2012.08.006.
- He, F., Cao, R., Feng, Z., Guan, H. & Peng, J. (2013). The impacts of dispositional

optimism and psychological resilience on subjective well-being of burn patients:
A structural equation modelling analysis. *Plos One*, 8(2), 1-5.

Heintzelmann, S. J., & King, L. A. (2014). Life is pretty meaningful. *American Psychologist*, 1-14. doi:10.1037/a0035049.

Helvik, A.-S., Iversen, V. C., Steiring, R., & Hallberg, L.. (2011). Calibrating and adjusting expectations in life: A grounded theory on how elderly persons with somatic health problems maintain control and balance in life and optimize well-being. *International Journal in Qualitative Studies of Health and Well-being*, 6, 6030-6043. doi:10.3402/qhw.v6i1.6030.

Hevey, D., & French, D. P. (2012). Comparative optimism for severity of negative health outcomes. *Psychology, Health & Medicine*, 17(4), 417-426. doi:10.1080/13548506.2011.613940.

Ho, M. Y., Cheung, F. M., & Cheung, S. F. (2010). The role of meaning in life and optimism in promoting well-being. *Personality and Individual Differences*, 48, 658-663. doi:10.1016/j.paid.2010.01.008.

Jobin, J., Wrosch, C., & Scheier, M. F. (2014). Associations between dispositional optimism and diurnal cortisol in a community sample: When stress is perceived as higher than normal. *Health Psychology*, 33(4), 382-391. doi:10.1037/a0032736.

Ju, H., Shin, J. W., Kim, C., Hyun, M., & Park, J. (2013). Mediation effect of meaning in life on the relationship between optimism and well-being in community elderly. *Archives of Gerontology and Geriatrics*, 56, 309-313.

Karademas, E., & Giannousi, Z. (2013). Representations of control and psychological symptoms in couples dealing with cancer: A dyadic-regulation approach.

- Psychology & Health*, 28(1), 67-83. doi:10.1080/08870446.2012.713954.
- Lau, S., Kubiak, T., Burchert, S., Goering, M., Oberländer, N., von Mauschwitz, H... & Hiemisch, A. (2014). Disentangling the effects of optimism and attributions on feelings of success. *Personality and Individual Differences*, 56, 78-82.
- Lee, H. & Mason, D. (2013). Optimism and coping strategies among Caucasian, Korean, and African American older women. *Health Care for Women International*, 34, 1084-1096. doi:10.1080/07399332.2013.798327.
- Lee, J.-S., Ahn, Y.-S., Jeong, K.-S., Chae, J.-H., & Choi, K.-S. (2014). Resilience buffers the impact of traumatic events on the development of PTSD symptoms in firefighters. *Journal of Affective Disorders*, 162, 128-133.
- Littman-Ovadia, H., & Nir, D. (2014). Looking forward to tomorrow: The buffering effect of daily optimism intervention. *The Journal of Positive Psychology*, 9(2), 122-136. doi:10.1080/17439760.2013.853202.
- Majerovitz, S. D., Mollott, R. J., & Rudder, C. (2009). We're on the same side: Improving communication between nursing home and family. *Health Communication*, 24, 12-20. doi:10.1080/10410230802606950.
- Maier, S. F., & Seligman, M. E. (1976). Learned helplessness: Theory and evidence. *Journal of Experimental Psychology: General*, 105(1), 3-46. doi:10.1037/0096-3445.105.1.3.
- Mautner, E., Stern, C., Deutsch, M., Nagele, E., Greimel, E., Lang, U., & Cervar-Zivkovic, M. (2013). The impact of resilience on psychological outcomes in women after preeclampsia: An observational cohort study. *Health and Quality of Life Outcomes*, 11(194). doi:10.1186/1477-7525-11-194.

- McCubbin, H. I., Thompson, A. I., & McCubbin, M. A. (1996). *Family assessment resiliency, coping, and adaptation: Inventories for research and practice*. Madison, WI: University of Wisconsin Publishers.
- Mertler, C. A., & Vannatta, R. A. (2010). *Advanced and multivariate statistical methods: Practical application and interpretation* (4th ed.). Glendale, CA: Pyrczak Publishing.
- Migerode, F., Maes, B., Buysse, A., & Brondeel, R. (2012). Quality of life in adolescents with a disability and their parents: The mediating role of social support and resilience. *Journal of Development and Physical Disabilities, 24*, 487-503. doi: 10.1007/s10882-012-9285-1.
- Mishra, K. K. (2013). Optimism and well-being. *Social Science International, 29*(1), 75-87.
- Monat, A., Lazarus, R.S., & Reevy, G. (2007). *The Praeger handbook on stress and coping* (Vol. 2). Westport, CT: Praeger Publishing Publishers.
- Neckar, J. (2013). Self-enhancement and coping: The costs and benefits of positive illusions. *Studia Psychologica, 55*(4), 299-309.
- Nes, S. L., Roach, A. R., & Segerstrom, S. C. (2009). Executive functions, self-regulation and chronic pain: A review. *Annals and Behavioral Medicine, 37*(2), 173-183. doi: 10.1007/s12160-009-9096-5.
- Newton-John, T. R. O., Mason, C., & Hunter, M. (2014). The role of resilience in adjustment and coping with chronic pain. *Rehabilitative Psychology, 1-5*. doi: 10.1037/a0037023.
- Ngai, F.-W., & Ngu, S.-F. (2013). Family sense of coherence and family adaptation

- among childbearing couples. *Journal of Nursing Scholarship*, 46(2), 82-90.
doi:10.1111/jnu.12045.
- Novovic, Z., Kovač, A., Đurić, V., & Biro, M. (2012). Positive and negative affect in illusion of control. *Psihologija*, 45(4), 395-407. doi:10.2298/PS11204395N
- Oitzl, M. S., Champagne, D. L., van der Veen, R., de Kloet, E. R. (2010). Brain development under stress: Hypotheses of glucocorticoid actions revisited. *Neuroscience and Biobehavioral Reviews*, 34(6), 853-866.
- O'Keefe, V. M., & Wingate, L. R. (2013). The role of hope and optimism in suicide risk for American Indians/Alaska Natives. *Suicide and Life-Threatening Behavior*, 43(6). doi:10.1111/sltb.12044.
- Patnaik, G. (2013). Impact of optimism and positive emotions on mental health. *Social Science International*, 29(1), 121-127.
- Pew Research Center (2012). Pew Internet & American Life Project 2009. Retrieved from http://www.pewinternet.org/files/old-media/Files/Reports/2009/PIP_Generations_2009.pdf.
- Pinquart, M., & Fröhlich, C. (2009). Psychosocial resources and subjective well-being of cancer patients. *Psychology & Health*, 24(4), 407-421. doi: 10.1080/08870440701717009.
- Pretorius, C., Walker, S., & Heyns, P. M. (2009). Sense of coherence amongst male caregivers in dementia: A South African perspective. *Dementia*, 8(1), 79-94.
- Rauch, S. A. M., Defever, E., Oetting, S., Graham-Bermann, S. A., & Seng, J. S. (2013). Optimism, coping, and posttraumatic stress severity in women in the childbearing year. *Psychological Trauma, Theory, Research, Practice, and Policy*, 5(1), 77-

83. doi:10.1037/a0022214.

- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, *80*(1), 1-28.
- Sarenmalm, E. K., Browall, M., Persson, L.-O., Fall-Dickson, J., Gaston-Johansson, F. (2013). Relationship of sense of coherence to stressful events, coping strategies, health status, and quality of life in women with breast cancer. *Psycho-Oncology*, *22*, 20-27. doi:10.1002/pon.2053.
- Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*(1), 5-14.
- Seligman, M. E., & Maier, S. F. (1967). Failure to escape traumatic shock. *Journal of Experimental Psychology*, *74*(1), 1-9. doi:10.1037/h0024514.
- Sherman, K. A., Roussi, P., & Miller, S. M. (2012). Women's perception of lymphedema risk management: Psychological factors do matter. *Cancer Research*, *72*(24a), 1959-1660. doi: 10.1158/0008-5472.SABCS12-P6-09-05.
- Silarova, B., Nagyova, I., Rosenberger, J., Studencan, M., Ondusova, D., Reijneveld, S. A., & van Dijk, J. P. (2012). Sense of coherence as an independent predictor of health-related quality of life among coronary heart disease patients. *Journal of Quality of Life Research*, *21*, 1863-1871. doi:10.1007/s11136-011-0106-2.
- Siman-Tov, A., & Kaniel, S. (2011). Stress and personal resource as predictors of the adjustment of parents to autistic children: A multivariate model. *Journal of Autism and Developmental Disorders*, *41*, 879-890. doi:10.1007/s10803-010-1112-x.
- Smith, T. W., Ruiz, J. M., Cundiff, J. M., Baron, K. G., & Nealey-Moore, J. B. (2013).

- Optimism and pessimism in social context: An interpersonal perspective on resilience and risk. *Journal of Research in Personality*, 47, 553-562. doi: 10.1016/j.jrp.2013.04.006.
- Soper, D. S. (2013). Post-hoc statistical power calculator for multiple regression (online software). Retrieved from <http://www.danielsoper.com/statistic>.
- Szramka-Pawlak, B., Dańczak-Pazdrowska, A., Rzepa, T., Szewczyk, A., Sadowska-Przytocka, A. & Żaba, R. (2013). Health-related quality of life, optimism, and coping strategies in persons suffering from localized scleroderma. *Psychology, Health & Medicine*, 18(6), 654-663. doi:10.1080/13548506.2013.764461.
- Takai, M., Takahashi, M., Iwamitsu, Y., Ando, N., Okazaki, S., & Nakajima, K., et al. (2009). The experience of burnout among home caregivers of patients with dementia: Relations to depression and quality of life. *Archives of Gerontology and Geriatrics*, 49(1), e1-e5. doi:10.1016/j.archger.2008.07.002.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103(2), 193-210.
- Taylor, Z. E., Widaman, K. F., Robins, R. W., Jochem, R., Early, D. R., & Conger, R. D. (2012). *Journal of Family Psychology*, 26(1), 133-139. doi:10.1037/a0026755.
- The National Alliance for Caregiving and AARP (2009). *Caregiving in the U.S.* Washington, DC: National Alliance for Caregiving. Retrieved from www.caregiving.org/data/Caregiving_in_the_US_2009_full_report.pdf.
- Tucker, R. P., Wingate, L. R., O'Keefe, V. M., Mills, A. C., Rasmussen, K., Davidson, C. L., & Grant, D. M. (2013). Rumination and suicidal ideation: The moderating roles of hope and optimism. *Personality and Individual Differences*, 55, 606-611.

doi: 10.1016/j.paid.2013.05.013.

University of Miami (n.d). Brief COPE. Retrieved from

<http://www.psy.miami.edu/faculty/ccarver/sclBrCOPE.html>

University of Miami (n.d). Life Orientation Test-Revised.

<http://www.psy.miami.edu/faculty/ccarver.sclLOT-R.html>.

University of Miami (n.d). Positive Generalization. Retrieved from

<http://www.psy.miami.edu/faculty/ccarver/>.

Välimäki, T. H., Vehviläinen-Julkunen, K. M., Pietilä, A-M. K., & Pirttilä, T. A.

(2009). Caregiver depression is associated with a low sense of coherence and health-related quality of life. *Aging & Mental Health*, 13(6), 799-807.

doi:10.1080/13607860903046487.

van der Spek, N., Vos, J., van Uden-Kraan, C. F., Breibart, W., Tollenaar, R. A. E. M.,

Cuijpers, P., & Verdonck-de Leeuw, I. M. (2013). Meaning making in cancer survivors: A focus group study. *Plos One*, 8(9), 1-7. doi:

10.1371/journal.pone.0076089.

Veronese, G. Castiglioni, M., Tombolani, M., & Said, M. (2012). ‘My happiness is the

refugee camp, my future Palestine’: Optimism, life satisfaction and perceived happiness in a group of Palestinian children. *Scandinavian Journal of Caring Sciences*, 26, 467-473. doi:10.1111/j.1471-6712.2011.00951.x.

Vincze, A. E. (2011). Positive illusions from the perspective of anthropology and

evolutionary psychology. *Philobiblon: Transylvania Journal of Multidisciplinary Research in Humanities*, 16(2), 520-537.

Vollmann, M., Scharloo, M., Langguth, B., Kalkouskaya, N., & Salewski, C. (2014).

- Illness representations as mediators of the relationship between dispositional optimism and depression in patients with chronic tinnitus: A cross-sectional study. *Psychology & Health*, 29(1), 81-93. doi:10.1080/08870446.2013.828294.
- Vosgerau, J. (2010). How prevalent is wishful thinking? Misattribution of arousal causes optimism and pessimism in subjective probabilities. *Journal of Experimental Psychology: General*, 139(1), 32-48. doi:10.1037/a0018144.
- Vossler, A. (2012). Salutogenesis and sense of coherence: Promoting health and resilience in counseling and psychotherapy. *Counseling Psychology Review*, 27(3), 68-78.
- Whitford, H. S., & Olver, I. N. (2011). The multidimensionality of spiritual well-being: peace, meaning, and faith and their association with quality of life and coping in oncology. *Psycho-Oncology*, 21, 602-610. doi:10.1002/pon.1937.
- Witt, P. W., Litzelman, K., Wisk, L. E., Spear, H. A., Catrine, K., Levin, N., Gottlieb, C. A. (2010). Stress-mediated quality of life outcomes in parents of childhood cancer and brain tumor survivors: A case-control study. *Journal of Quality of Life Research*, 19(7). doi:10.1007/s11136-010-9666-9.
- Wong, S. S., & Lim, T. (2009). Hope versus optimism in Singaporean adolescents: Contributions to depression and life satisfaction. *Personality and Individual Differences*, 46, 648-652. doi:10.1016/j.paid.2009.01.009.
- Wu, H.-C. (2011). The protective effects of resilience and hope on quality of life of the families coping with the criminal traumatization of one of its members. *Journal of Clinical Nursing*, 20, 1906-1915. doi:10.1111/j.1365-2702.2010.03664-x.
- Wurm, S., & Benyamini, Y. (2014). Optimism buffers the detrimental effect of negative

self-perceptions of ageing on physical and mental health. *Psychology & Health*, 29(7), 832-848. doi:10.1080/08870446.2014.891737.

Young, M. C. (2014). Do positive illusions contribute to human well-being?

Philosophical Psychology, 27(4), 536-552. doi:10.1080/09515089.2013.764860.

Yi, J. (2009). Cultural influences on the survivorship of families affected by childhood

cancer: A case for using family systems theories. *Family Systems & Health*,

27(3), 228-236. doi:10.1037/a0017150.

Zauszniewski, J. A., Bekhet, A. K., & Suresky, M. J. (2009). Effects on resilience of

women family caregivers of adults with serious mental illness: The role of

positive cognitions. *Archives of Psychiatric Nursing*, 23(6), 412-422. doi:

10.1016/j.apnu.2008.12.004.

Zeng, Y. C., Li, D., & Loke, A. Y. (2011). Life after cervical cancer: Quality of life

among Chinese women. *Nursing and Health Sciences*, 13, 296-302.

doi:10.1111/j.1442-2018.2011.00616.x.

Appendix A: Statement of Consent

Introduction:

If you are an adult who is fluent in English, possess education that is equal or greater than a high school education, and you are not a paid caregiver, but provide care to a family member or friend on a routine basis, you are invited to volunteer to take part in an anonymous study.

Research Purpose:

This study is intended to focus on the factors that improve life satisfaction, health, and well-being in adult caregivers.

Risks:

There are no foreseeable risks to you as a participant in this study. However, as a precautionary measure, if there are any feelings of discomfort, please exit the survey and dial 211, which is the local help hotline in many states.

Benefits:

One potential benefit of participation is to increase the knowledge and understanding of family caregiving. The researcher will offer no form of compensation. However, Survey Monkey is willing to donate \$0.50 to the participant's chosen charity, and offer each participant a chance to win a \$100 Amazon gift card.

Privacy:

This is an anonymous study. Your response will be added to responses from other participants and maintained in a password protected digital format for a maximum of five years.

Contact:

The research is being conducted by Claudine Gerald, a doctoral student at Walden University. Ms. Gerald may be contacted at claudine.gerald@waldenu.edu. The University's Research Participant Advocate may also be contacted at 612-312-1210 or irb@waldenu.edu.

Voluntary Participation:

Participation is voluntary. If you choose to participate, please print and retain a copy of this consent form. If you wish to participate, click "Next" to indicate you are willing to volunteer 45 minutes to an hour of your time to complete this survey. If you do not wish to volunteer to participate, click "Exit the survey."

Appendix B: Demographic Scale

1. Are you fluent in English? Yes/No
2. Are you at least 18 years old? Yes/No
3. Have you completed high school? Yes/No
4. Have you ever been enrolled in a college? Yes/No
5. Have you been caring for a loved one (i.e., family member)? Yes/No
6. Are you a paid caregiver? Yes/No
7. Have you been a caregiver for at least six months? Yes/No
8. What is the frequency of care? Daily/Weekly/Monthly

Appendix C: Brief COPE Inventory

Retrieved from <http://www.psy.miami.edu/faculty/ccarver/sclBrCOPE.html>

Please indicate whether these statements are true for you.

1 = I haven't been doing this at all

2 = I've been doing this a little bit

3 = I've been doing this a medium amount

4 = I've been doing this a lot

Questions

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I have been saying to myself "this isn't real."
4. I've been using alcohol or drugs to help me get through it.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to make myself feel better.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.

16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do. 24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

Appendix D: Positive Generalizations (POG) Scale

Retrieved from <http://www.psy.miami.edu/faculty/ccarver.html>

Please indicate how you rate the following sentences.

1 = I agree a lot

2 = I agree a little

3 = I'm in the middle---I neither agree or disagree

4 = I DISagree a little

5 = I DISagree a lot

Questions

1. If I succeed at something, it makes me feel I will succeed in other areas as well.
2. If someone praises the way I express something, it makes me think I can write a popular book.
3. When I succeed at something, it makes me think about the successes in other areas of my life.
4. When people agree with me after I speak up in a group, it makes me think I could be elected to public office.
5. When an attractive person smiles at me, I can tell it means s/he is hot for me.
6. When something good happens to me, it makes me expect good things in other parts of my life too.
7. When people laugh at my jokes, it makes me think I could be a good talk-show host.
8. Having one thing go right for me can change me from feeling just OK to seeing all the good in myself.

9. When someone compliments me about something I've said, it makes me think about impressing lots of other people.
10. All it takes is one look from someone and I know that person is falling for me.
11. When one thing goes right, it makes me feel my possibilities are limitless.
12. When I have a small financial success, it makes me believe I could become a millionaire.
13. After one date goes well, it makes me think that person will be in love with me forever.
14. When I made me first friend in this town, I knew I was destined to be a big success socially.
15. When someone praises me for my efforts in a club or organization, it makes me think of being the head of the organization.
16. Having a single success makes me think of other successes.

Appendix E: Life Orientation Test-Revised (LOT-R)

Retrieved from <http://www.psy.miami.edu/faculty/ccarver/sclLOT-R.html>

Please indicate how the following statements relate to you.

A = I agree a lot

B = I agree a little

C = I neither agree nor disagree

D = I DISagree a little

E = I DISagree a lot

Questions

1. In uncertain times, I usually expect the best.
2. It's easy for me to relax.
3. If something can go wrong for me, it will.
4. I'm always optimistic about my future.
5. I enjoy my friends a lot.
6. It's important for me to keep busy.
7. I hardly ever expect things to go my way.
8. I don't get upset too easily.
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

Appendix F: Family Coping Coherence Index

Please indicate to what degree you either agree or disagree with each statement regarding your family.

1= Strongly disagree

2= Disagree

3= Neutral

4= Agree

5= Strongly Agree

1. Accepting stressful events as a fact of life. 1 2 3 4 5

2. Accepting that difficulties occur unexpectedly. 1 2 3 4 5

3. Defining the family problem in a more positive way so we don't get discouraged.

1 2 3 4 5

4. Having faith in God. 1 2 3 4 5

Appendix G: Family Hardiness Index (FHI)

Please read the statements below and decide how each statement relates to your family.

0= False

1= Mostly False

2= Mostly True

3= True

In our family

1. Trouble results from mistakes we make. 0 1 2 3

2. It is not wise to plan ahead and hope because things do not turn out anyway.

0 1 2 3

3. Our work and efforts are not appreciated no matter how hard we try and work.

0 1 2 3

4. In the long run, the bad things to happen to us are balanced by the good things that happen to us. 0 1 2 3

5. We have a sense of being strong even when we face big problems. 0 1 2 3

6. Many times I feel I can trust that even in difficult times things will work out.

0 1 2 3

7. While we don't always agree, we can count on each other to stand by us in times of need. 0 1 2 3

8. We do not feel we can survive if another problem hits us. 0 1 2 3

9. We believe things will work out for the better if we work together as a family.

0 1 2 3

10. Life seems dull and meaningless. 0 1 2 3

11. We strive together and help each other no matter what. 0 1 2 3
12. When our family plans activities, we try new and exciting things. 0 1 2 3
13. We listen to each other's problems, hurts and fears. 0 1 2 3
14. We tend to do the same things over and over...it's boring. 0 1 2 3
15. We seem to encourage each other to try new things and experiences. 0 1 2 3
16. It is better to stay at home than go out and do things with others. 0 1 2 3
17. Being active and learning new things are encouraged. 0 1 2 3
18. We work together to solve problems. 0 1 2 3
19. Most of the unhappy things that happen are due to bad luck. 0 1 2 3
20. We realize our lives are controlled by accidents and luck. 0 1 2 3

Appendix H: Family Crisis Oriented Personal Evaluation Scales (F-COPES)

Please describe how well each statement describes your attitudes and behaviors in response to problems or difficulties. As a family, we respond to problems or difficulties by...

1= Strongly disagree

2= Moderately disagree

3= Neither agree nor disagree

4= Moderately agree

5= Strongly agree

1. Sharing our difficulties with relatives
2. Seeking encouragement and support from friends
3. Knowing we have the power to solve major problems
4. Seeking information and advice from persons in other families who have faced the same or similar problems
5. Seeking advice from relatives (grandparents, etc.)
6. Seeking assistance from community agencies and programs designed to help families in our situation
7. Knowing that we have the strength within our own family to solve our problems
8. Receiving gifts and favors from neighbors (e.g., food, taking mail, etc.)
9. Seeking information and advice from the family doctor
10. Asking neighbors for favors and assistance
11. Facing the problems “head-on” and trying to get solution right away

12. Watching television
13. Showing that we are strong
14. Attending church services
15. Accepting stressful events as a fact of life
16. Sharing concerns with close friends
17. Knowing luck plays a big part in how well we are able to solve family problems
18. Exercising with friends to stay fit and reduce tension
19. Accepting that difficulties occur unexpectedly
20. Doing things with relatives (get-togethers, dinners, etc.)
21. Seeking professional counseling and help for family difficulties
22. Believing we can handle our own problems
23. Participating in church activities
24. Defining the family problem in a more positive way so that we do not become too discouraged
25. Asking relatives how they feel about problems we face
26. Feeling that no matter what we do to prepare, we will have difficulty handling problems
27. Seeking advice from a minister
28. Believing if we wait long enough, the problem will go away
29. Sharing problems with neighbors
30. Having faith in God

Appendix I: Rotter Internal-External Locus of Control Scale

Please indicate which sentence better describes the way you feel, sentence (a) or sentence (b).

Question 1

- a. Children get into trouble because their parents punish them too much.
- b. The trouble with most children nowadays is that their parents are too easy with them.

Question 2

- a. Many of the unhappy things in people's lives are partly due to bad luck.
- b. People's misfortunes result from the mistakes they make.

Question 3

- a. One of the major reasons why we have wars is because people don't take enough interest in politics.
- b. There will always be wars, no matter how hard people try to prevent them.

Question 4

- a. In the long run people get the respect they deserve in this world.
- b. Unfortunately, an individual's worth often passes unrecognized, no matter how hard he tries.

Question 5

- a. The idea that teachers are unfair to students is nonsense.
- b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

Question 6

- a. Without the right breaks one cannot be an effective leader.

b. Capable people who fail to become leaders have not taken advantage of their opportunities.

Question 7

a. No matter how hard you try, some people just don't like you.

b. People who can't get others to like them don't understand how to get along with others.

Question 8

a. Heredity plays the major role in determining one's personality.

b. It is one's experiences in life which determine what they're like.

Question 9

a. I have often found that what is going to happen will happen.

b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

Question 10

a. In the case of a well-prepared student there is rarely if ever such a thing as an unfair test.

b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

Question 11

a. Becoming a success is a matter of hard work: luck has little or nothing to do with it.

b. Getting a good job depends mainly on being in the right place at the right time.

Question 12

a. The average citizen can have an influence on government decisions.

b. This world is run by the few people in power, and there is not much the little guy can do about it.

Question 13

a. When I make plans, I am almost certain I can make them work.

b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyway.

Question 14

a. There are certain people who are just no good.

b. There is some good in everybody.

Question 15

a. In my case, getting what I want has little or nothing to do with luck.

b. Many times, we might just as well decide what to do by flipping a coin.

Question 16

a. Who gets to be boss often depends on who was lucky enough to be in the right place first.

b. Getting people to do the right thing depends upon ability; luck has little to do with it.

Question 17

a. As far as world affairs are concerned, most of us are victims of forces we can neither understand nor control.

b. By taking an active part in political and social affairs the people can control world events.

Question 18

- a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
- b. There is really no such thing as luck.

Question 19

- a. One should always be willing to admit mistakes.
- b. It is usually best to cover up one's mistakes.

Question 20

- a. It is hard to know whether or not a person really likes you.
- b. How many friends you have depends upon how nice a person you are.

Question 21

- a. In the long run, the bad things that happen to us are balanced by the good ones.
- b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

Question 22

- a. With enough effort, we can wipe out political corruption.
- b. It is difficult for people to have much control over the things politicians do in office.

Question 23

- a. Sometimes, I can't understand how teachers arrive at the grades they give.
- b. There is a direct connection between how hard I study and the grades I get.

Question 24

- a. A good leader expects people to decide for themselves what they should do.
- b. A good leader makes it clear to everybody what their jobs are.

Question 25

- a. Many times, I feel that I have little influence over the things that happen to me.
- b. It is impossible for me to believe that chance or luck plays an important role in my life.

Question 26

- a. People are lonely because they don't try to be friendly.
- b. There's not much use trying too hard to please people; if they like you, they like you.

Question 27

- a. There is too much emphasis on athletics in high school.
- b. Team sports are an excellent way to build character.

Question 28

- a. What happens to me is my own doing.
- b. Sometimes, I feel I don't have enough control over the direction my life is taking.

Question 29

- a. Most of the time, I can't understand why politicians behave the way they do.
- b. In the long run, the people are responsible for bad government on a national as well as local level.