

EXPLORING THE ROLE OF POSITIVE PSYCHOLOGY CONSTRUCTS AS
PROTECTIVE FACTORS AGAINST THE IMPACT OF NEGATIVE
ENVIRONMENTAL VARIABLES ON THE SUBJECTIVE
WELL-BEING OF OLDER ADULTS

A Dissertation

by

GINGER DIANE PEZENT

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2011

Major Subject: Counseling Psychology

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Approved by:

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ABSTRACT

Exploring the Role of Positive Psychology Constructs as Protective Factors Against the
Impact of Negative Environmental Variables on the Subjective Well-being
of Older Adults. (May 2011)

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M.S., Texas A&M University

Chair of Advisory Committee: Dr. Michael Duffy

The present study explored how older adults adapt to the negative changes that often occur as people age. This study sought to provide a comprehensive investigation of how the positive psychology variables of hope, optimism, resilience, and self-efficacy might work together to serve as protective factors against the potentially deleterious impact of negative environmental variables on the subjective well-being of older adults. The negative environmental variables examined in this study included declining health status, lower social support, and negative life events (e.g., loss of spouse, reduced income, etc.). In this study, the subjective well-being in older adults is defined as an overall sense of satisfaction with life, high positive affect, and low negative affect. This study examined three primary hypothesized models, each investigating how positive internal dispositional factors (as measured by taking the composite of hope, optimism, resilience, and self-efficacy), work together to mediate the relationship between the components of subjective well-being and a different environmental variable for each model. Several alternative path analyses models were also run based on modifications to

the model that achieved good fit, with the goal of evaluating whether the individual positive psychology constructs either fully or partially mediated between certain environmental variables and each of the components of subjective well-being.

Although no adequate fits were attained for the models evaluating social support and negative life events, results of this study showed an adequate fit for the model evaluating the positive psychology cluster as a mediator between health status and the subjective well-being components; more specifically, the positive psychology cluster was shown to mediate the relationship between perceived health and two of the three components of subjective well-being (life satisfaction and positive affect). In addition, correlation analyses revealed that the positive psychology variables were all significantly correlated with each other, as well as with the participant reports of life satisfaction, positive affect, and perceived health. These findings suggest that participants who reported higher levels of the positive psychology constructs experienced higher satisfaction with life and positive affect, and perceived themselves as having a lower occurrence of health problems. Overall, these results provide additional evidence for the protective role that hope, optimism, resilience, and self-efficacy may play in maintaining the well-being of older adults.

DEDICATION

I would like to dedicate this manuscript to the many older adults that I've had the pleasure of working with in a variety of clinical and research settings throughout my training. These individuals not only created the impetus toward this research, but also taught me to value the things in life that are truly important and to live each day to its absolute fullest. Although some of these wonderful people are now gone, they certainly left a lasting impression.

ACKNOWLEDGEMENTS

I would like to thank my committee chair, Dr. Michael Duffy, and my committee members, Dr. Timothy Elliott, Dr. Daniel Brossart and Dr. Arnold LeUnes, for their guidance and support throughout the course of this research.

Thanks also go to my friends and colleagues, as well as the department faculty and staff for making my time at Texas A&M University a great experience. I also want to extend my gratitude to all of the older adults throughout Alabama and Texas who were willing to participate in the study.

Finally, thanks to my family for their encouragement and to my husband for his love and support.

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1. INTRODUCTION

Early in the history of psychology, the primary goals of researchers and clinicians were three-fold: 1) help alleviate mental illness, 2) improve personal fulfillment and sense of meaning, and 3) identify and support strengths. However, an unfortunate shift in focus occurred following World War II which effectively eliminated the latter two goals that focused on improving people's lives. With the founding of the Veterans Administration and the National Institute of Mental Health immediately after the war, (both of which follow the disease model), psychologists had a strong economic incentive to shift their focus primarily to treating and researching pathology. Although this focus on alleviating human suffering led to incredibly important breakthroughs in the understanding of various mental illnesses and disorders, it left a serious gap in the understanding of human strengths and the possible preventive factors against mental illness (Seligman & Csikszentmihalyi, 2000).

Another major shift in the focus of psychology occurred with the 1998 American Psychological Association presidential address from Martin Seligman, followed by the first edition of the *American Psychologist* in the year 2000 being devoted to the topic of positive psychology. This positive psychology edition opened with an introductory article by Seligman and Csikszentmihalyi (2000) which urged psychologists that the time to reclaim psychology's forgotten missions was now. They highlighted the gaps in research on prevention and human strengths that had occurred over the last 50 years due to the

This dissertation follows the style of *American Psychologist*.

focus on pathology, and encouraged researchers and clinicians to begin shifting their focus to encouraging human strengths rather than only attempting to repair weaknesses. Seligman and Csikszentmihalyi (2000) asserted that “psychology is not just the study of pathology, weakness, and damage; it is also the study of strength and virtue. Treatment is not just fixing what is broken; it is nurturing what is best” (p. 7).

Researchers have shown that a variety of human strengths may serve an important preventive role against pathology. By shifting the focus of psychology to the positive traits of individuals, important strides can be made in understanding not only how to enhance people’s lives, but also how to prevent or buffer against negative psychological effects (Seligman & Csikszentmihalyi, 2000). Although a variety of constructs related to human strengths have been identified and studied (some more extensively than others), there remains some overlap and lack of clarity related to the specific constructs of hope, optimism, resilience, and self-efficacy; these constructs will be reviewed in greater detail in the following sections.

The author of the present study sought to further explore the role that hope, optimism, resilience, and self-efficacy may play in protecting the subjective well-being of older adults. These strengths may be especially important for the older adult population due to their increased probability of experiencing negative environmental variables such as low social support, physical health problems, and a variety of negative life events (e.g. financial difficulty, death of friends and family). With the aging of the baby-boom generation and longer life expectancies, the number of individuals over the age of 65 in the United States is expected to be twice as large in the year 2030 as it was in 2000. This projection means that the older adult population will likely increase from 35 to 72 million

and will constitute approximately 20% of the U.S. population by 2030. The focus on prevention and the ability to promote positive aging will likely increase in popularity in the coming years due to the growing cost of treating physical and mental health issues in older adults (He, Sengupta, Velkoff, & DeBarros, 2005). As a result, psychologists should be prepared to deal with the increasing mental health demands of this aging population.

Purpose of the Study

The purpose of the present study was to consolidate and build on the currently disjointed body of previous research on internal positive psychology constructs, various environmental variables, and subjective well-being as each of these variables relate to older adults. This study sought to provide a more comprehensive investigation of the relationships among these constructs in order to provide a more thorough understanding of how positive psychology variables may serve as protective factors against the deleterious impact of negative environmental variables on the subjective well-being of older adults. The positive psychology constructs of hope, optimism, resilience, and self-efficacy were examined as a cluster of internal, dispositional variables in relation to the subjective well-being of older adults. Each of the dispositional variables was also examined for their individual relationships with older adults' subjective well-being. The impact of the environmental variables of social support, health status, and negative life events were also examined in relation to the subjective well-being of older adults.

The potential mediating effects of the dispositional, positive psychology cluster were analyzed to determine how the presence of these strengths might serve as protective factors against the potentially detrimental impact of negative environmental variables on

older adults' subjective well-being. To the author's knowledge, no previous studies have provided such a thorough examination of how these particular positive psychology variables relate to each other and potentially protect against a variety of negative environmental variables (e.g., low social support, declining health, etc.) in older adults. The goal of this study's more comprehensive look at these dispositional and environmental variables was to provide a greater understanding of the complexity of influences on the subjective well-being of older adults, especially when faced with life stressors.

2. LITERATURE REVIEW

Positive Psychology Constructs

Self-efficacy. As part of his social learning theory, Bandura initiated a significant movement in the psychological literature toward the study of expectancies. Bandura proposed that cognitions play an integral role in the development of behavior patterns, and that feelings of mastery due to successful performance increase individuals' ability to cope under stressful situations. He differentiated between outcome expectations and efficacy expectations, positing that individuals' beliefs about particular behaviors leading to specified outcomes are considered outcome expectations while individuals' beliefs about their ability to perform a behavior to gain a certain outcome are known as efficacy expectations. According to Bandura, individuals' perceived self-efficacy is critical for behavior change to take place because they must believe that they have the capability to perform the particular behavior which will lead to the desired outcome (Bandura, 1977).

In addition to behavior change, Bandura proposed that efficacy expectations strongly influence individuals' ability and willingness to cope in negative situations. He stated, "Efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences" (Bandura, 1977, p. 194). In other words, individuals with a high sense of self-efficacy will generally try harder to cope under stressful situations, whereas those with low self-efficacy will likely continue feeling a sense of defeat and expect no control over their outcomes. Fortunately for those with low self-efficacy, Bandura indicates that experiencing performance successes would increase an individual's sense of self-efficacy. Additionally, negative

feelings related to performance failures will be greatly diminished once a high sense of self-efficacy has been established through recurring successes (Bandura, 1977).

Regardless of an individual's ability to behave in a certain way, or the outcomes they can expect from that behavior, Bandura believed that action will not be taken unless the individual has the perception of control over his or her situation – this is known as perceived self-efficacy. According to Bandura, “Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3). These beliefs are thought to be the primary component in human behavior because individuals will not even attempt to change behavior or cope with negative life events if their beliefs are that they have no control over their situation anyway (Bandura, 1997).

In a study of the coping resources employed by older adults with and without chronic diseases, high self-efficacy for persisting against adversity was shown to relate specifically to lower depression in both chronically ill and healthy older adults (Penninx, van Tilburg, Boeke, Deeg, Kriegsman, & van Eijk, 1998). In a similar study that focused on pain among older adults, researchers found that the intensity of pain experienced by the participants was not significantly improved by an increase in self-efficacy for managing pain; however, high self-efficacy for managing pain was negatively correlated with individuals' feelings of disability and depression related to their pain. The results of this study suggest that despite the actual level of physical pain, older adults with higher levels of self-efficacy may be able to cope with and adapt more readily to living with pain (Turner, Ersek, & Kemp, 2005). The findings from the Penninx et al. (1998) and Turner

et al. (2005) studies provide convincing evidence for the positive impact that high self-efficacy may hold for older adults coping with stressful life events.

Optimism. While Bandura focused primarily on the importance of efficacy expectations in determining individuals' behaviors (Bandura, 1977; 1997), Scheier and Carver (1985) proposed the construct of optimism, which was more closely related to Bandura's (1977) original ideas about outcome expectancies. Scheier and Carver (1985) proposed that optimists are individuals who typically expect to achieve positive outcomes in their lives. Similar to Bandura's ideas about the way self-efficacy influenced behavior, Scheier and Carver (1992) proposed that optimism led to individuals' ability to persevere in goal-directed behaviors and was the most influential predictor of individuals' behavior. In other words, optimists are people who, even when faced with obstacles to their goals, continue to believe that their goals can be accomplished and maintain effort toward attaining those goals they consider valuable.

This presence of a positive disposition has been shown to provide a significant benefit for positive aging in older adults. The results of a study of optimism and health behaviors in older adults suggested that regardless of actual physical health, optimists rated themselves as being in fair or poor health five times less than did pessimists. In addition, results indicated a strong relationship between optimistic outlook and healthy behavioral choices (Steptoe, Wright, Kunz-Ebrecht, & Iliffe, 2006). Similar to the Turner, et al. (2005) study on self-efficacy discussed previously, these findings provide strong evidence for the positive impact of optimism for older adults dealing with negative life events. The beneficial impact of optimism in older adults is also supported by the findings of Ferreira and Sherman (2007) which showed that "greater optimism and

support were significantly related to both greater life satisfaction and lower depressive symptoms” (p. 89). In their study, Ferreira and Sherman (2007) found that optimism partially mediated the relationship between pain and life satisfaction in older adults, providing further support for the importance of an optimistic disposition in older adults coping with stressful life events.

Hope. Another important positive psychology construct related to expectations is that of hope. Although various definitions for the concept of hope exist (Bergin & Walsh, 2005), the present study used the definition of hope proposed by C.R. Snyder, a leading researcher in the concept of hope and the developer of hope theory. According to Snyder and his colleagues, hope is best understood “as a cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals)” (Snyder, Harris, Anderson, Holleran, Irving, Sigmon, et al., 1991, p. 571). Although the agency and pathways components of hope theory closely mirror the previously discussed efficacy and outcome expectancies central to self-efficacy and optimism, researchers have shown that each of these related constructs predicts unique variances independent of the others (Magaletta & Oliver, 1999). In addition, whereas self-efficacy focuses on efficacy expectations and optimism focuses on outcome expectations, the theory of hope encompasses both types of expectations and puts equal emphasis on the importance of each in determining behavior (Snyder et al., 1991).

Researchers have found individuals who ranked higher in overall hope to report being able to deal with stress and distressing feelings more effectively, have greater well-being, better ability to function in different domains of life, and have fewer psychiatric

symptoms than those with lower overall hope (Irving, Snyder, Cheavens, Gravel, Hanke, Hillberg, et al., 2004). In a study specifically related to hope in older adults, Wroblewski and Snyder (2005) found that in community-dwelling older adults, “higher hope related to greater life satisfaction and better perceived physical health” (p.217). Findings from their study indicate that, although the high-hope older adults did not enjoy better health or more social support than their peers, the older adults high in hope were able to continue striving toward their goals and felt satisfied with their lives. Based on the reciprocal nature of hope theory, high-hope older adults are likely able to exhibit more flexible goals which allows for easier adaptation under changing life circumstances (Wroblewski & Snyder, 2005).

Resilience. While several researchers have compared and drawn similarities among the constructs of hope, optimism, and self-efficacy in relation to outcome and efficacy expectations (Snyder et al., 1991; Magaletta & Oliver, 1999), there appears to be little or no research available that has included the related construct of resilience in these comparisons. According to Wagnild and Young (1993), “Resilience connotes emotional stamina and has been used to describe persons who display courage and adaptability in the wake of life’s misfortunes” (p. 166). The author of the present study proposed that the two major components of resilience (perseverance and adaptability) are actually very closely related to the agency and pathways components of hope theory. Like the agency component of hope, the perseverance component of resilience refers to the determination of individuals to reach their goals. In addition, the adaptability component of resilience mirrors the pathways component of hope; both refer to individuals’ abilities to plan strategies for effectively reaching their goals.

As individuals reach old age, this ability to adapt and persevere may become especially important due to their increased likelihood of being faced with negative environmental factors such as low social support, declining health, and other negative life events. Research indicates that people high in resilience are much more likely to be able to effectively recover from these types of negative life stressors. In a study by Tugade and Fredrickson (2004), participants who displayed a high level of resilience perceived stressful events as less threatening than did the participants with low resilience. In addition to this psychological benefit of resilience, they also found that high-resilience participants' level of physiological arousal following a stressful event returned to baseline much more quickly than the participants who rated themselves as low in resilience. These findings highlight the important impact that positive emotions, such as resilience, may have on both the body and mind of individuals coping with negative stressors in their lives (Tugade & Fredrickson, 2004).

In a study specifically examining resilience in older adults, results suggested that high-resilient participants displayed more positive emotions which served to promote their ability to effectively adapt in the face of adversity. Those participants who were low in resilience tended to display more reactivity to stressful events and had difficulty regulating their negative emotions (Ong, Bergeman, Bisconti, & Wallace, 2006). A related study examined the role that resilience plays in the relationships between life satisfaction and loss of spouse in older adults. Findings suggested that the significant relationship between life satisfaction and perceived stress following widowhood was reduced to a non-significant level following the introduction of resilience into the equation (Rossi, Bisconti, & Bergeman, 2007). In contrast to the commonly-held myth

that individuals become more frail in all aspects of their lives as they age, results of a study conducted in Sweden actually suggested that the oldest old (people 85 years or older) displayed a level of resilience as high as or higher than that of younger individuals (Nygren, Al  x, Jons  n, Gustafson, Norberg, & Lundman, 2005).

Environmental Factors

The previously described positive psychology constructs (e.g. self-efficacy, optimism, hope, and resilience) were explored in the current study as potential protective factors against the detrimental impact that negative environmental factors may have for older adults. Although the current literature is somewhat disjointed, some of the relevant findings related to the environmental factors of health status, social support, and negative life events – and their relationships positive psychology constructs and subjective well-being – are discussed in the following sections.

Negative Life Events. For the purposes of the present study, the phrase “negative life events” refers specifically to the stressful life events reported by older adults to have impacted them in a negative way. While one may consider declines in health and social support to also qualify as negative life events, this category of environmental factors impacting older adults’ well-being refers specifically to situations such as changes in residence, employment, and financial status. This category also includes changes such as divorce and serious illness or death of a spouse or close friend; these types of life changes are peripherally related to social support as they may result in a decrease of social support resources for older adults. The negative life events of participants in the current study were measured using the Louisville Older Persons Events Schedule created by Murrell, Norris, and Hutchins (1984). This survey includes a list of commonly-occurring life

changing events to which participants were asked to indicate which events they experienced within the 6 months and to what extent it impacted them either positively or negatively.

Social Support. Another environmental factor that has the potential to create a negative impact on the well-being of older adults is social support. As individuals age, they are at increased risk for a decline in social support due to the death of their spouses and friends. As mentioned briefly in the previous section, Clémence et al. (2007) found social support to have the second strongest impact on the well-being of older adults, following the impact of health-related events. In addition, the previously mentioned study by Jones et al. (2003) also found that both perceived and actual social support were moderately related to subjective well-being in older adults.

In the study by Ferreira and Sherman (2007) discussed before, they found that social support had an independent relationship with life satisfaction. Their finding corresponded with previous research (Cummins & Nistico, 2002; Walen & Lachman, 2000) showing that increased social support is a strong indicator of greater physical and psychological well-being in older adults. Penninx et al. (1998) showed that “regardless of the presence of chronic disease, direct favorable effects on psychological status were found for having a partner and many close relationships” (p. 555).

Health Status. While the average life expectancy has increased, people living into old age are often at an increased risk for chronic illnesses and other debilitating functional limitations. Older adults in the United States report a variety of chronic health conditions from arthritis to heart disease and cancer; prevalence rates for each condition differ significantly based on the gender, race, and ethnicity. Although the rate of

functional deficits in has declined in recent years, limitations such as hearing and vision loss still impact approximately 42% of the older adult population. The occurrence of these health conditions often results in decreased sense of well-being and ability to function well enough to remain living independently in the community (Federal Interagency Forum on Aging-Related Statistics, 2008).

In a recent longitudinal study conducted with adults over the age of 80, results suggested that “health-related events appeared to have a strong negative impact on well-being for all participants...health problems had the strongest effect on change in well-being, followed by negative events in social support” (Clémence, Karmaniola, Green, & Spini, 2007, p. 209). Jones, Rapport, Hanks, Lichtenberg, and Telmet (2003) found similar results in their study of older adults and predictors of well-being. Results from their study corroborated the finding that health status – both perceived and actual – is a strong predictor of well-being in older adults. A series of research conducted by Taylor, Kemeny, Reed, Bower, and Gruenewald (2000) indicates that positive psychological beliefs, such as optimism, may serve as valuable protective resources for physical health. Their findings suggested that “even unrealistically optimistic beliefs about the future may be health protective” (Taylor et al., 2000, p. 99).

In a study of older adults with osteoarthritis (a prevalent chronic health condition among older adults), Ferreira and Sherman (2007) examined the relationships among social support, pain, and optimism. Their findings indicated that the significant relationship between pain and life satisfaction is partially mediated by optimism. The mediating impact of optimism on the relationship between pain and life satisfaction can be interpreted in two possible ways: 1) increased pain may serve to decrease an

individual's level of optimism; or 2) an optimistic disposition may serve as a buffer to decrease the negative impact of pain on life satisfaction. As discussed previously, Wroblewski and Snyder (2005) also found that in community-dwelling older adults, "higher hope related to greater life satisfaction and better perceived physical health" (p.217). Findings from their study indicate that, although the high-hope older adults did not necessarily enjoy better health than their peers, the older adults high in hope were able to continue striving toward their goals and felt satisfied with their lives.

Subjective Well-being

The construct of subjective well-being served as the dependent variable in the current study and was examined to determine the overall impact that negative environmental factors and positive psychology constructs may have on older adults. For the purposes of the current study, the concept of subjective well-being was defined and measured using the conceptualization proposed by Diener (1984; 2000). He proposed that the concept of subjective well-being refers to both the cognitive and affective evaluations that individuals ascribe to their own lives. He emphasized the "subjective" component involved in his conceptualization of well-being, indicating the right of individuals to decide for themselves whether or not their lives are worthwhile (Diener, 2000).

According to Diener (2000), an individual's subjective well-being is based on his or her judgments about the following interrelated, yet independent domains: "life satisfaction (global judgments of one's life), satisfaction with important domains (e.g., work satisfaction), positive affect (experiencing many pleasant emotions and moods), and low levels of negative affect (experiencing few unpleasant emotions and moods)" (p. 34). In the present study, the life satisfaction component— both in terms of global and specific

domains – was measured using Temporal Satisfaction With Life Scale (TSWLS), which allowed for the measurement of an individual's level of life satisfaction across his or her past, present, and future (Pavot, Diener, & Suh, 1998). It is important to note that the positive and negative affect components of subjective well-being are two distinct constructs, not simply occurring at the opposite ends of a continuum (Diener & Emmons, 1985). The positive and negative affect of participants in the present study was measured using Watson, Clark, and Tellegen's (1988) Positive and Negative Affect Schedule (PANAS).

Statement of the Problem

The primary purpose of this study is to investigate how the positive psychology constructs of hope, optimism, resilience, and self-efficacy might mediate the relationship between subjective well-being and the environmental factors of health status, social support, and negative life events. The dependent variable for this study is subjective well-being, which is a higher-order concept comprised of the following three components: sense of satisfaction with life, the presence of positive affect, and the absence of negative affect (Diener, 1984). Each of the environmental factors consist of two sub-components as follows: a) health status involves examining both actual and perceived health status; b) social support involves examining both structural and functional support; and c) negative life events involves examining both the number of negative events experienced and the intensity of negative impact from those events.

The author of the current study proposed that the potentially mediating variables of hope, optimism, resilience, and self-efficacy actually function in very similar ways to help mediate the potentially harmful impacts of environmental variables on subjective

well-being. As described previously, Bandura's theory of self-efficacy refers to an individual's ability to organize and carry out the necessary actions to reach desired outcomes (Bandura, 1997). Similarly, Scheier and Carver (1992) proposed that optimism leads to individuals' ability to persevere in goal-directed behaviors, and even when faced with obstacles to their goals, continue to believe that their goals can be accomplished and maintain effort toward attaining those goals they consider valuable. Along the same lines, hope theory proposed by Snyder et al. (1991) indicates that the construct of hope includes both a sense of goal-directed determination (agency component) as well as the ability to plan ways to meet goals (pathways component). Although these components of hope theory closely mirror the components central to self-efficacy and optimism, researchers have shown that each of these related constructs predicts unique variances independent of the others (Magaletta & Oliver, 1999).

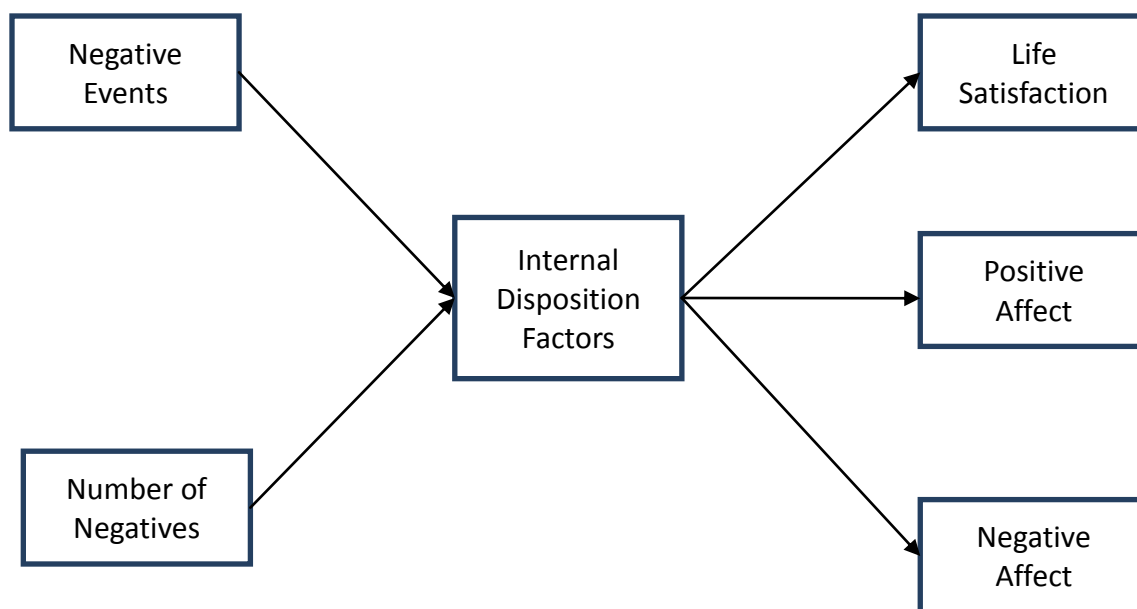
Additionally, the author of the current study proposed that the two major components of Wagnild and Young's (1993) theory of resilience (perseverance and adaptability) are actually very closely related to the agency and pathways components of hope theory. Like the agency component of hope, the perseverance component of resilience refers to the determination of individuals to reach their goals. In addition, the adaptability component of resilience mirrors the pathways component of hope; both refer to individuals' abilities to plan strategies for effectively reaching their goals. Although the four positive internal/dispositional variables considered in the current study comprise four distinct constructs, the author of the current study proposed that the individual constructs function in such a similar manner that they likely work more in unison than separately to create an overall sense of perseverance toward goal-directed behaviors;

therefore, the author of the current study sought to primarily examine these constructs as a cluster of positive psychology/internal disposition variables.

Research Hypotheses

The following section contains a series of predictions about the interrelationships among the variables as indicated in the following models. The predictions of individual relationships were evaluated within the complex of interrelationships by utilizing the path models as follows:

Figure 1. Path-analytic model 1. Influence of negative life events and the cluster of positive psychology variables on subjective well-being (as comprised of life satisfaction, positive affect, and negative affect).

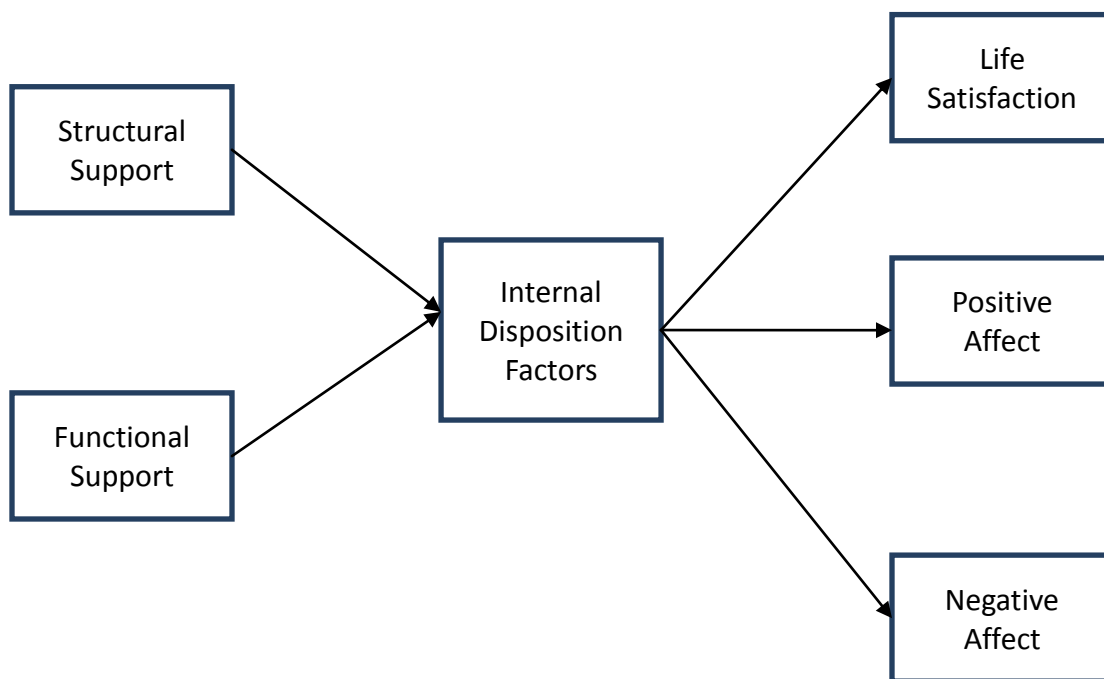


Model 1 (Predictor Variables are Negative Life Events Impact Score and Number of Negative Life Events Experienced):

Hypothesis: The positive psychology cluster (as measured by a composite score of the positive psychology/internal dispositional factors) is expected to fully

mediate the relationship between negative life events (as measured by the number of negative events experienced and negative events impact score) and subjective well-being (as measured by life satisfaction, positive affect, and negative affect) in older adults. See Figure 1.

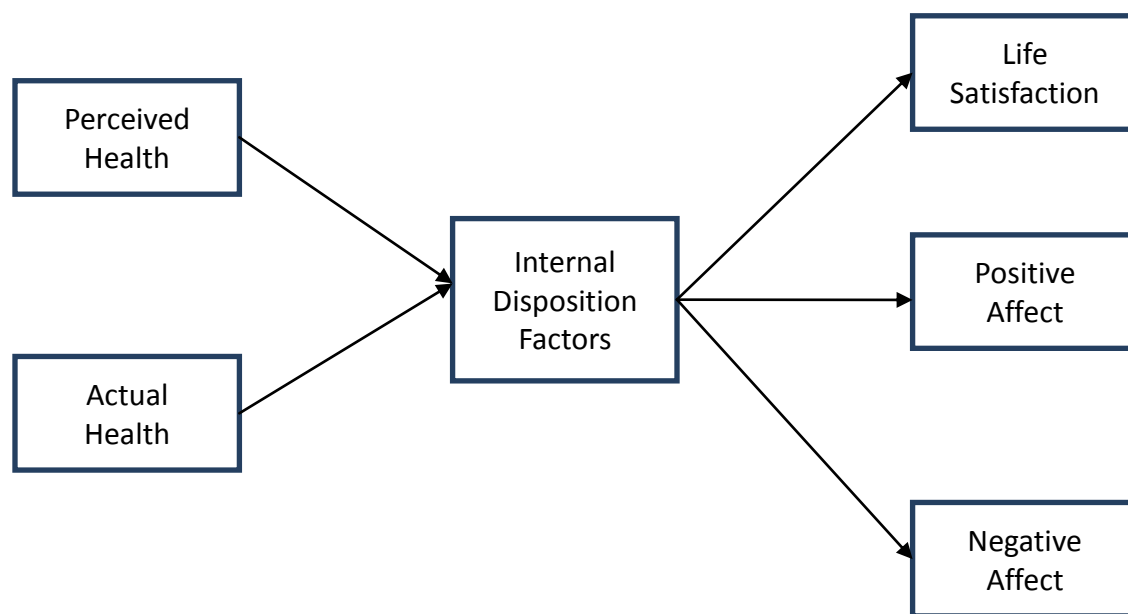
Figure 2. Path-analytic model 2. Influence of social support and the cluster of positive psychology variables on subjective well-being (as comprised of life satisfaction, positive affect, and negative affect).



Model 2 (Predictor Variables are Structural Support and Functional Support):

Hypothesis: The positive psychology cluster (as measured by a composite score of the positive psychology/internal dispositional factors) is expected to fully mediate the relationship between social support (as measured by structural and functional support) and subjective well-being (as measured by life satisfaction, positive affect, and negative affect) in older adults. See Figure 2.

Figure 3. Path-analytic model 3. Influence of health status and the cluster of positive psychology variables on subjective well-being (as comprised of life satisfaction, positive affect, and negative affect).



Model 3 (Predictor Variables are Perceived Health and Actual Health):

Hypothesis: The positive psychology cluster (as measured by a composite score of the positive psychology/internal dispositional factors) is expected to fully mediate the relationship between health status (as measured by perceived and actual health) and subjective well-being (as measured by life satisfaction, positive affect, and negative affect) in older adults. See Figure 3.

3. METHODOLOGY

Participants

A convenience sample of volunteer participants ages 65 and older were recruited from a variety of independent and institutional living environments throughout Alabama and central Texas. Participants were recruited primarily through religious institutions and community organizations with primarily older adult attendance (e.g., senior activity centers and group meetings). Although group administrations and personal assistance with the questionnaires was offered, all participants opted to complete them independently and return them in the postage-paid envelopes. Approximately 175 questionnaires were distributed, and a total of 97 (55%) were returned. Of the questionnaires returned, 63 (65%) were returned fully completed, 30 (31%) were returned with no more than 2 of the 11 survey measures omitted or clearly invalid, and 6 (6%) were returned completely blank. Therefore, the final sample included in this study consisted of 93 participants.

Participants ranged in age from 65 to 95, with an average age of 74.6. Regarding the gender of participants, 40 (44.9%) were male and 49 (55.1%) were female. Concerning race or ethnicity, 82 (91.1%) participants identified themselves as White, 4 (4.4%) identified as Black, 2 (2.2%) identified as Hispanic, and 2 (2.2%) identified as Asian. Pertaining to marital status, 58 (62.4%) were married, 28 (30.1%) were widowed, and 7 (7.5%) were divorced. With reference to religious affiliation, 43 (46.2%) participants reported having attended services at a religious institution “very frequently” throughout their lifetime, 18 (19.4%) attended “frequently,” 19 (20.4%) attended

“sometimes,” and 13 (14%) attended “seldom” or “never” throughout their lifetime. The majority of participants (75.3%) reported living “independently at home” while 19.4% indicated residing in an “independent-living retirement community.” Only 5.4% of participants reported living in an “assisted living facility,” and there were no participants currently residing in a “long-term nursing facility.”

Measures

Hope. The concept of hope was measured using The Trait Hope Scale developed by Snyder, Harris, Anderson, Holleran, Irving, Sigmon, et al. (1991). This is a 12-item instrument consisting of eight hope statements and four filler statements scored on a Likert-type scale; both pathways and agency thinking are assessed. The Trait hope scale measures the dispositional, or trait, hope of an individual rather than looking at hope in terms of an individual’s current state hope. In the original study, internal consistency coefficients ranged from .74 to .84, and test-retest reliability was .85 after three weeks and .73 after eight weeks. The Trait Hope Scale also correlated highly with other commonly used scales measuring similar positive outcome constructs (Snyder et al., 1991). The coefficient alpha for the present study was .87, suggesting good internal consistency.

Optimism. The concept of optimism was assessed using the revised version of the Life Orientation Test (LOT-R) developed by Scheier, Carver, and Bridges, 1994. The revised version improved on the original by eliminating two items that did not appear to truly measure what was intended. In addition, one positively worded item was added and one negatively worded item was removed from the instrument in order to have an equal number of positively and negatively worded items. The LOT-R is a ten-item instrument

consisting of six optimism items and four filler statements that are scored on a Likert-type scale ranging from 0 (strongly disagree) to 4 (strongly agree). The coefficient alpha was reported by the authors as .78, and the test-retest reliability was .68 after four months and .79 after 28 months (Scheier, Carver, & Bridges, 1994). The coefficient alpha for the present study was .77, suggesting acceptable internal consistency.

Self-efficacy. The concept of self-efficacy was measured using the New General Self-efficacy Scale developed by Chen, Gully, and Eden (2001). This 8-item scale improved on the most widely used Self-Efficacy Scale previously developed by Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, and Rogers (1982). The newer scale improved has been shown to have higher construct validity with fewer items and high reliability. Participants completing this scale were asked to rate, on a 5-point scale from strongly disagree to strongly agree, the extent to which they agree with a series of statements related to how confident they are in their own ability perform effectively across a variety of situations. Test-retest reliability coefficients ranged from .62 to .66 in the original study. Results of the original study also provided evidence for better construct and content validity than previous measure of self-efficacy (Chen et al., 2001). The coefficient alpha for the present study was .93, suggesting excellent internal consistency.

Resilience. The concept of resilience was measured using the Resilience Scale developed in 1993 by Wagnild and Young. This scale consists of 25 items and was developed using a sample of older women. Item responses are scored on a 7-point scale indicating the degree to which participants agree or disagree with statements about their personal views of themselves. The original study demonstrated a coefficient alpha of .91

and test-retest reliability coefficients ranging from .67 to .84 (Wagnild & Young, 1993). The coefficient alpha for the present study was .95, suggesting excellent internal consistency.

Social Support. The functional and structural social support of participants was measured using the 19-item MOS (Medical Outcomes Study) Social Support Survey developed by Sherbourne and Stewart in 1991. The concept of structural support simply refers to the actual number of people in an individual's social support system. This type of support is measured on the survey using a single-item question about the number of close friends and family members the participant has. The specific areas of functional support measured by this survey are emotional/information support, positive social interaction, affectionate support, and tangible support. For the functional support items on the survey, participants are asked to rank a variety of statements about available social support in terms of how often it is available to them; items are scored on a 5-point scale from "None of the Time" to "All of the Time." In the original study, the alpha coefficient for the total survey was .97, and the test-retest reliability coefficient for the total survey was .78 (Sherbourne & Stewart, 1991). The coefficient alpha for functional support in the present study was .98, suggesting excellent internal consistency.

Negative Life Events. The negative life events of participants in the current study were measured using a subset of items from the Louisville Older Persons Events Schedule (LOPES) developed by Murrell, Norris, and Hutchins in 1984. This survey includes a list of 54 potentially life-changing events on which participants are asked to indicate which events they experienced within the last year and to what extent the event impacted them either positively or negatively. Participants are asked to rate the events

experienced over the past year on a 7-point scale from -3 (extremely negative) to +3 (extremely positive). The LOPES was developed specifically for the older adult population and has participants endorse whether they've experienced events such as "Retirement," "Friend died," or "Birth of a grandchild." For the purposes of the present study, items identified by participants as having a negative impact were included in the analyses as an indicator of negative life events.

Physical Health Status. Information about the perceived and actual physical health of participants was acquired using a physical health questionnaire developed by the author of the present study. Perceived health will be measured using the following single item from Ware and Sherbourne's (1992) MOS 36-item short-form health survey: "In general, would you say your health is:" with the answer choices of excellent, very good, good, fair, and poor. A study by Linn and Linn (1980) indicates that this self-report method of assessing perceived physical health correlates highly with more objective measures of physical health.

Actual physical health was measured using a checklist of the most commonly occurring chronic illnesses among older adults (e.g., heart disease and diabetes), as well as some common functional deficits (e.g., vision impairment and memory loss). This checklist was developed using information about health in older adults obtained from a recent report by the Federal Interagency Forum on Aging-Related Statistics (2008).

Life Satisfaction. The life satisfaction component of participants' well-being was measured using the Temporal Satisfaction With Life Scale developed by Pavot et al. (1998). This scale consists of 15 statement to which participants are asked to rate the degree to which they agree or disagree on a scale from 1 (strongly disagree) to 7 (strongly

agree). This 15-item scale is comprised of 5 past-oriented, 5 present-oriented, and 5 future-oriented statements. In the original study, alpha coefficients ranged from .92 to .93, and test-retest reliability correlations ranged from .82 to .88 (Pavot et al., 1998). The coefficient alpha for the present study was .94, suggesting excellent internal consistency.

Positive and Negative Affect. The positive and negative affect components of participants' subjective well-being were measured using the Positive and Negative Affect Schedule (PANAS) developed by Watson et al. (1988). As indicated previously, positive and negative affect refer to two very distinct dimensions, not opposite ends of a single continuum. In fact, these two components have a strong negative correlation, and being high or low on one may be unrelated to how participants score on the other. On this scale, participants are presented a list of 20 affective words (e.g., excited, scared, nervous, etc.), and for this administration, participants were asked to indicate the extent to which they felt that way in the last week. Items are ranked on a 5-point scale from "very slightly" to "extremely." In the original study, coefficient alphas were .88 and .87 for the positive and negative affect scales, respectively. Test-retest reliability coefficients for the positive and negative affect scales were .68 and .71, respectively (Watson et al., 1988). The coefficient alpha for positive affect in the present study was .91, suggesting excellent internal consistency. The coefficient alpha for negative affect in the present study was .76, suggesting acceptable internal consistency.

Demographics. A demographic questionnaire was developed by the author of the present study to gather information about the following participant characteristics: age, gender, ethnicity, marital status, religious attendance, and current living environment.

This information was important in adequately describing the composition of the study sample and examining possible influences of various demographic variables.

Procedures

Paper-and-pencil questionnaires were distributed in both group and individual settings, with either the author or a trained administrator available to describe the study and answer any clarification questions. Although the author provided an option for personal assistance with completing the questionnaires (e.g., oral administration for those with vision or motor difficulties), no participants opted for this type of administration. Estimated time for completion of the questionnaire was approximately 45 to 60 minutes.

The administration of the study questionnaire was piloted on several representative older adults to evaluate timing and any potential logistical issues. The total study questionnaire took pilot participants approximately 45 to 60 minutes to complete. All information provided on the questionnaires was kept confidential by having each sealed packet collected without names or other identifying information provided. The order of the individual instruments comprising the study questionnaire was counterbalanced among the administrations to reduce the risk of ordering effects. Protection of all participants was assured by following the guidelines of the Institutional Review Board at Texas A&M University.

4. RESULTS

Descriptive and Correlation Analyses

A total of 93 participants were included in the current study with an average age of 75. Approximately 45% of participants were male and 55% were female. Concerning race or ethnicity, the majority of participants identified themselves as White, married, and living independently at home. With reference to religious affiliation, 46% of participants reported having attended services at a religious institution “very frequently” throughout their lifetime. Means and standard deviations, as well as minimum and maximum scores, for the study variables are presented in Table 1. Listwise deletion was implemented for missing data across the correlation analyses. Due to concerns about adequate sample size, mean imputation was applied for path modeling to retain as large an N as possible.

Table 1

Descriptive Statistics of Constructs

	N	Min.	Max.	Mean	SD
Hope	91	23	64	49.84	8.168
Optimism	91	4	18	12.69	2.870
Resilience	92	48	175	141.73	21.052
Self-efficacy	91	8	40	31.14	5.195
Negative impact	75	-30	0	-6.83	6.909
# of negatives	75	0	15	3.72	3.323
Perceived health	91	1	5	2.59	.802
Actual health	93	0	9	2.88	1.835

Table 1 cont'd

	N	Min.	Max.	Mean	SD
Structural support	88	0	50	10.42	9.063
Functional support	93	24	95	80.52	16.319
Life satisfaction	90	15	105	72.93	17.520
Positive affect	87	12	50	34.30	8.101
Negative affect	87	10	28	15.11	4.987

A series of Pearson correlations were run to evaluate the relationships among the primary constructs of interest in the present study (Table 2). As expected, the positive psychology variables (e.g., hope, optimism, resilience, and self-efficacy) were all significantly correlated to each other at the .01 level. Of particular interest, the positive psychology variables (when examined for both individual relationships and as a composite) were all significantly correlated with participant reports of life satisfaction, positive affect, and perceived health at the .01 level. These findings suggest that participants who reported higher levels of the positive psychology constructs experienced higher satisfaction with life and positive affect, and perceived themselves as having a lower occurrence of health problems. Consistent with Diener (1984), there were significant relationships among the variables comprising the subjective well-being construct (e.g., life satisfaction, positive affect, and negative affect). In the current study, life satisfaction was significantly correlated with positive affect at the .01 level and negative affect at the .05 level. Positive affect and negative affect were also significantly correlated at the .05 level.

Table 2

Correlations Among Primary Variables

	1	2	3	4	5	6	7	8
1. Hope	1	.386**	.724**	.664**	.854**	.054	-.094	-.378**
2. Optimism	.386**	1	.523**	.364**	.697**	-.004	-.008	-.330**
3. Resilience	.724**	.523**	1	.587**	.873**	-.086	.000	-.339**
4. Self-efficacy	.664**	.364**	.587**	1	.810**	.118	-.150	-.438**
5. Composite	.854**	.697**	.873**	.810**	1	.025	-.082	-.453**
6. Negative impact	.054	-.004	-.086	.118	.025	1	-.927**	-.006
7. # of negatives	-.094	-.008	.000	-.150	-.082	-.927**	1	.112
8. Perceived health	-.378**	-.330**	-.339**	-.438**	-.453**	-.006	.112	1
9. Actual health	-.363**	-.218*	-.256*	-.189	-.316**	.039	.083	.396**
10. Structural support	.108	.118	.067	.217*	.163	-.200	.172	.040
11. Functional support	.101	.328**	.263*	.188	.264*	.122	-.137	-.145
12. Life satisfaction	.521**	.395**	.449**	.484**	.562**	.097	-.157	-.352**
13. Positive affect	.460**	.627**	.544**	.473**	.637**	-.042	.018	-.373**
14. Negative affect	-.214*	-.255*	-.209	-.145	-.243*	-.208	.229	.103

Note. * $p < .05$, ** $p < .01$

Table 2 cont'd

	9	10	11	12	13	14
1. Hope	-.363**	.108	.101	.521**	.460**	-.214*
2. Optimism	-.218*	.118	.328**	.395**	.627**	-.255*
3. Resilience	-.256*	.067	.263*	.449**	.544**	-.209
4. Self-efficacy	-.189	.217*	.188	.484**	.473**	-.145
5. Composite	-.316**	.163	.264*	.562**	.637**	-.243*
6. Negative impact	.039	-.200	.122	.097	-.042	-.208
7. # of negatives	.083	.172	-.137	-.157	.018	.229
8. Perceived health	.396**	.040	-.145	-.352**	-.373**	.103
9. Actual health	1	-.149	-.075	-.245*	-.222*	.051
10. Structural support	-.149	1	.162	.164	.178	-.002
11. Functional support	-.075	.162	1	.386**	.323**	-.073
12. Life satisfaction	-.245*	.164	.386**	1	.433**	-.252*
13. Positive affect	-.222*	.178	.323**	.433**	1	-.214*
14. Negative affect	.051	-.002	-.073	-.252*	-.214*	1

Note. *p < .05, **p < .01

Path Analyses and Model Specification

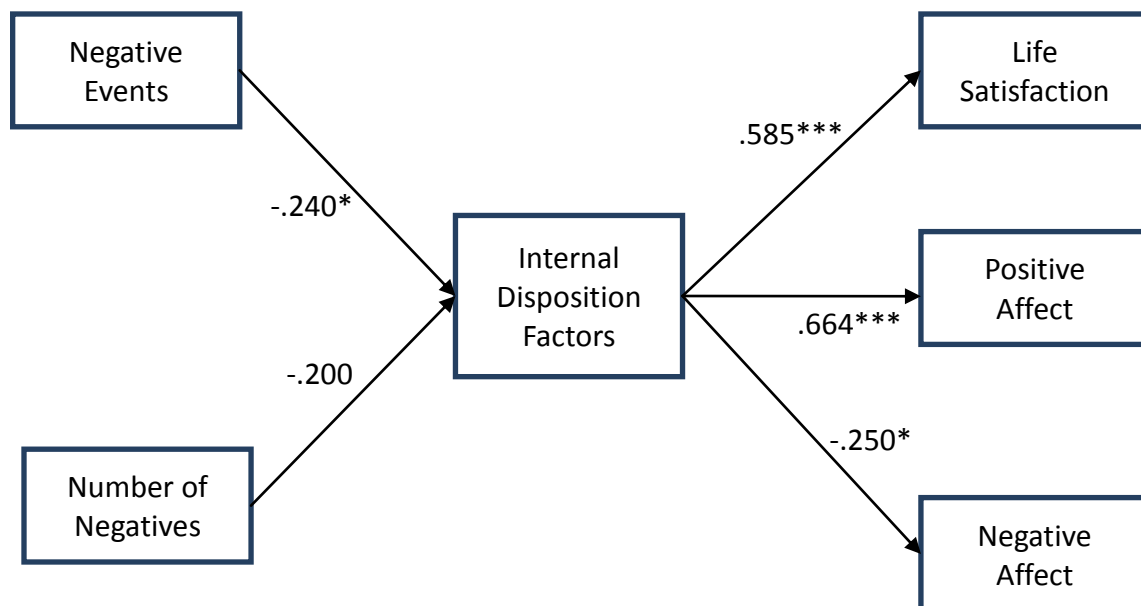
A series of predictions about the interrelationships among the variables of interest were examined by utilizing path analyses to test each of the hypotheses listed previously. Three primary path analytic models were estimated to evaluate the plausibility of mediation models whereby the direct effects of negative external factors on indicators of subjective well-being are fully mediated through the internal/dispositional cluster (as measured by a composite score of hope, optimism, resilience, and self-efficacy). The internal/dispositional composite score was calculated by transforming the scores for the individual internal factors into z-scores, then averaging the four z-scores. The coefficient alpha for the internal disposition cluster calculated for this study was .65, which is a little low but acceptable for research. All path analyses were conducted in AMOS 18.0 for Windows.

The research followed Kline's (2005) recommendations of using multiple fit indices in addition to the Chi-Square statistic to evaluate model fit, where a non-significant chi-square indicates a good fit. The approach is recommended because Hu and Bentler (1999) stated that the Chi-Square statistic is influenced by sample size. Additionally, fit indices were examined using the Root Mean Square Error of Approximation (RMSEA; $< .08$ for adequate fit), the CFI and TLI ($> .95$ for adequate fit). Given these criteria, only one model (figure on page 35) showed an adequate fit.

Model 1. In the first model (see Figure 4 below), the positive psychology cluster (as measured by a composite score of the positive psychology/internal dispositional factors) was expected to fully mediate the relationship between negative life events (as measured by the number of negative events experienced and negative events impact

score) and subjective well-being (as measured by life satisfaction, positive affect, and negative affect) in older adults. Model 1 did not show a good fit to the data, and therefore, full mediation by the positive psychology cluster could not be supported.

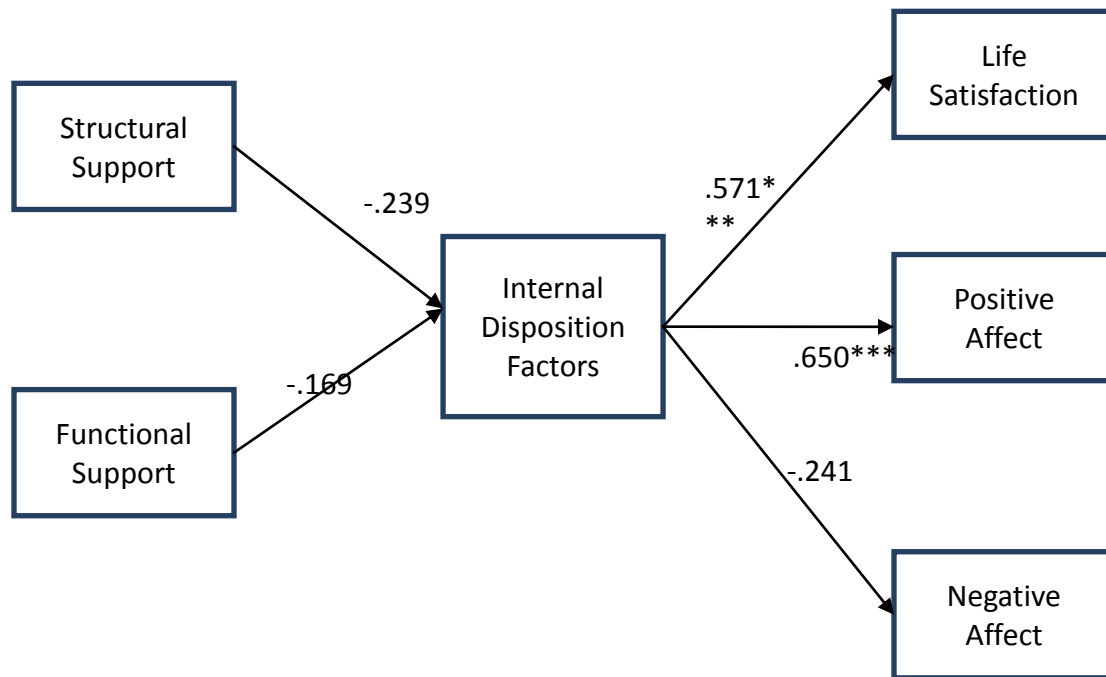
Figure 4. Results of path-analytic model 1. Influence of negative life events and the cluster of positive psychology variables on subjective well-being (as comprised of life satisfaction, positive affect, and negative affect).



Note. $\chi^2(9) = 140.58^{***}$, RMSEA=.379, CFI=.384, TLI=-.284.

Model 2. In the second model (see Figure 5 below), the positive psychology cluster (as measured by a composite score of the positive psychology/internal dispositional factors) is expected to fully mediate the relationship between social support (as measured by structural and functional support) and subjective well-being (as measured by life satisfaction, positive affect, and negative affect) in older adults. Model 2 did not show a good fit to the data, and therefore, full mediation by the positive psychology cluster could not be supported.

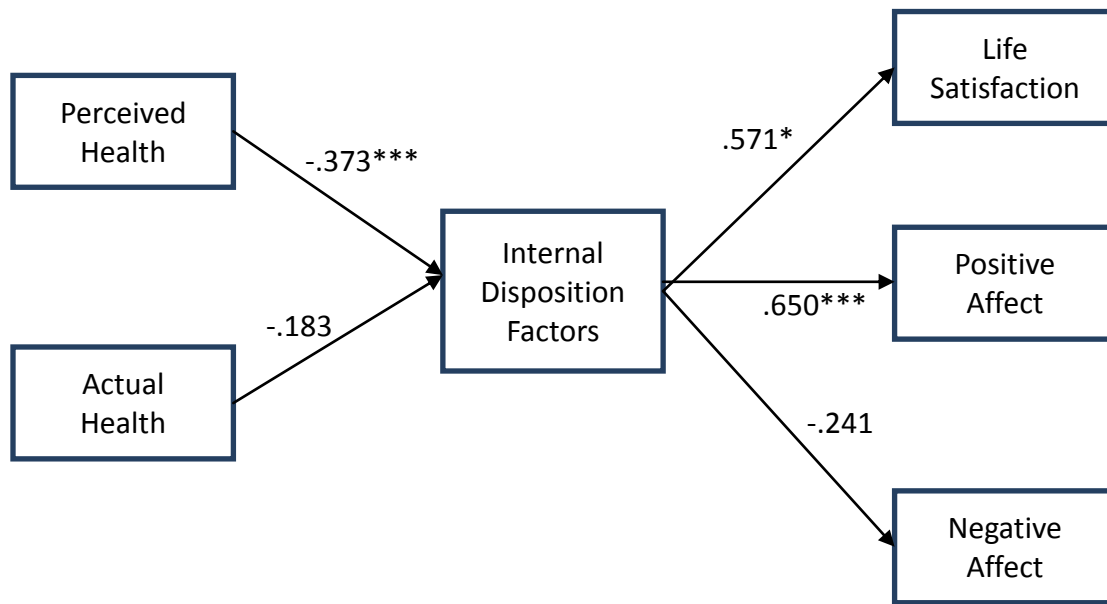
Figure 5. Results of path-analytic model 2. Influence of social support and the cluster of positive psychology variables on subjective well-being (as comprised of life satisfaction, positive affect, and negative affect).



Note. $\chi^2(9) = 6.01$, *ns*, RMSEA=.902, CFI=.937, TLI=.896.

Model 3. In the third model (see Figure 6 below), the positive psychology cluster (as measured by a composite score of the positive psychology/internal dispositional factors) is expected to fully mediate the relationship between health status (as measured by the perceived and actual health) and subjective well-being (as measured by life satisfaction, positive affect, and negative affect) in older adults. The results of Model 3 indicated an adequate fit to the data, with the positive psychology cluster fully mediating the relationship between perceived health and life satisfaction, as well as positive affect. However, because the path to negative affect was not significant, full mediation by the positive psychology cluster on the relationship between perceived health and the full construct of subjective well-being could not be supported.

Figure 6. Results of path-analytic model 3. Influence of health status and the cluster of positive psychology variables on subjective well-being (as comprised of life satisfaction, positive affect, and negative affect).



Note. $\chi^2(9) = 4.73^{***}$, RMSEA=.000, CFI=1.000, TLI=1.087.

Model Modifications

Due to potential clinical implications, the one model that achieved good fit (Model 3) was expanded out in order to evaluate whether the individual positive psychology constructs either fully or partially mediated between perceived or actual health and each of the components of subjective well-being. These modifications appeared to make the most theoretical sense due to the potential clinical importance of knowing which of the positive psychology variables might have the greatest meditational impact. To test the potential mediation of the individual positive psychology variables (hope, optimism, resilience, and self-efficacy) between the health variables and each of the components of subjective well-being (life satisfaction, positive affect, or negative affect), several path models were tested. The approach involved testing a fully mediated

model against a partially mediated model (a fully saturated model) for each health status variable with each of the subjective well-being components. Figure 7 below is an example of the partially mediated model for perceived health and life satisfaction; the fully mediated model (Figure 8) is identical except with the arrow directly from perceived health to life satisfaction removed. Ultimately, none of the modifications for Model 3 showed a good fit to the data; therefore, neither full nor partial mediation by the individual positive psychology variables could be supported for any of the relationships between health status and subjective well-being components.

Figure 7. Partially mediated/fully saturated model 3 modification. Influence of perceived health and individual positive psychology variables on life satisfaction.

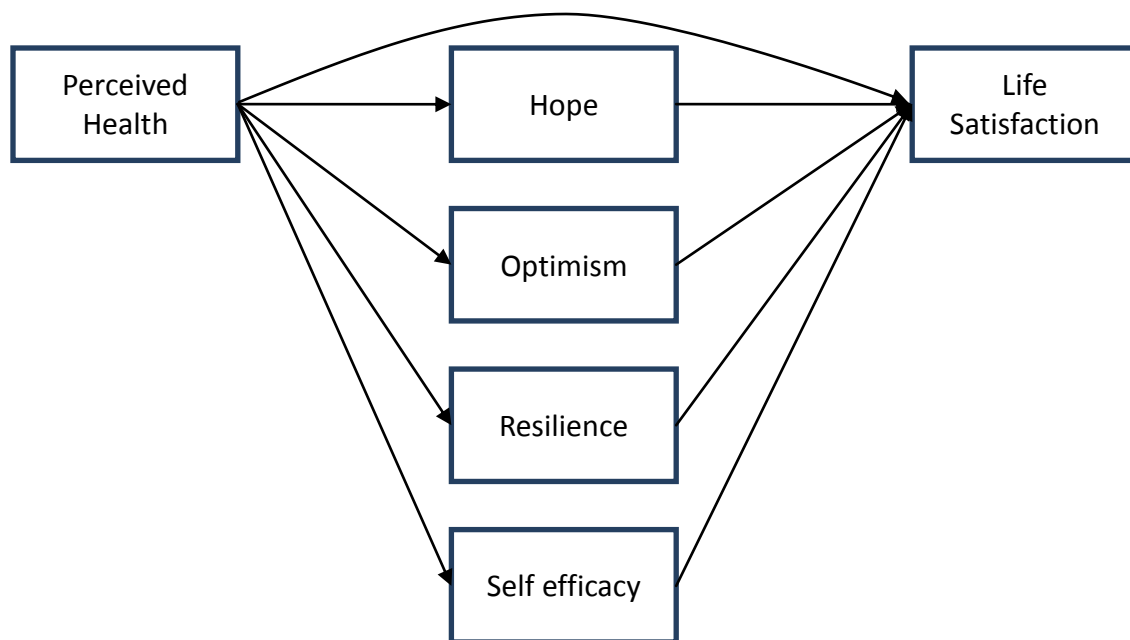
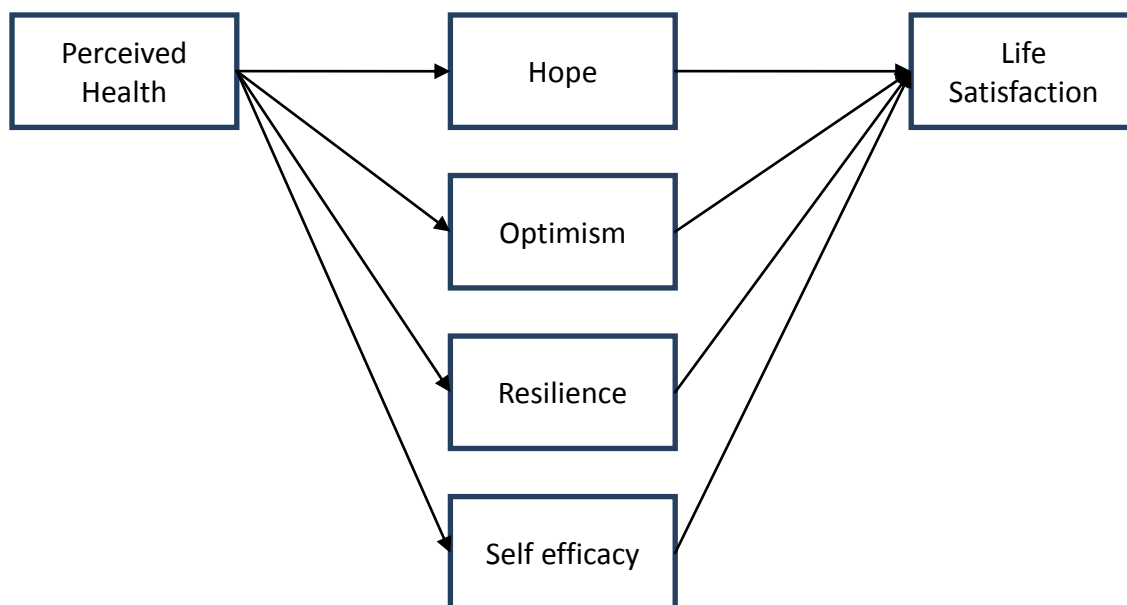


Figure 8. Fully mediated model 3 modification. Influence of perceived health and individual positive psychology variables on life satisfaction.



5. DISCUSSION AND SUMMARY

Major Findings and Conclusions

The purpose of the present study was to consolidate and build on the currently disjointed body of previous research on internal positive psychology constructs, various environmental variables, and subjective well-being as each of these variables relate to older adults. More specifically, this study sought to provide a more comprehensive investigation of the relationships among these constructs in order to provide a more thorough understanding of how positive psychology variables may serve as protective factors against the deleterious impact of negative environmental variables on the subjective well-being of older adults. The primary goal of this study was to investigate how the positive psychology constructs of hope, optimism, resilience, and self-efficacy might work together to mediate the relationship between subjective well-being and the environmental factors of health status, social support, and negative life events.

The dependent variable for this study was subjective well-being, which is a higher-order concept comprised of the following three components: a sense of satisfaction with life, the presence of positive affect, and the absence of negative affect (Diener, 1984). Consistent with Diener's research, this study showed significant relationships among the variables comprising the subjective well-being construct (e.g., life satisfaction, positive affect, and negative affect). In the current study, life satisfaction was significantly correlated with positive affect at the .01 level, $r = .433$ and negative affect at the .05 level, $r = -.252$. Positive affect and negative affect were also significantly correlated at the .05 level, $r = -.214$. This is consistent with previous research regarding

the construct of subjective well-being, which indicates that the life satisfaction, positive affect, and negative affect components are not completely independent of one another (Diener, 1984). In addition, correlation analyses revealed that the positive psychology variables were all significantly correlated with each other, as well as with the participant reports of life satisfaction, positive affect, and perceived health (all at the .01 level). These findings suggest that participants who reported higher levels of the positive psychology constructs experienced higher satisfaction with life and positive affect, and perceived themselves as having a lower occurrence of health problems.

Each of the environmental factors consisted of two sub-components as follows: a) health status involved examining both actual and perceived health status; b) social support involved examining both structural and functional support; and c) negative life events involved examining both the number of negative events experienced and the intensity of negative impact from those events. Three path models were initially estimated to evaluate the plausibility of mediation models whereby the direct effects of negative external factors on indicators of subjective well-being are mediated through the positive psychology cluster (as measured by a composite score of the positive psychology/internal dispositional factors).

The results indicated that only one path analytic model showed an adequate fit to the data. In the third model (Figure 6), the positive psychology cluster was expected to fully mediate the relationship between health status (as measured by the perceived and actual health) and subjective well-being (as measured by life satisfaction, positive affect, and negative affect) in older adults. Results of this study indicated that Model 3 showed an adequate fit to the data, with the positive psychology cluster mediating the relationship

between perceived health and life satisfaction, as well as positive affect (two of the three components of subjective well-being). However, because the path to negative affect was not significant, full mediation by the positive psychology cluster on the relationship between perceived health and the full construct of subjective well-being could not be supported. Due to potential clinical implications, the one model that achieved good fit (Model 3) was expanded out in order to evaluate whether the individual positive psychology constructs either fully or partially mediated between perceived or actual health and each of the components of subjective well-being. Because none of the modifications for Model 3 showed a good fit to the data, neither full nor partial mediation by the individual positive psychology variables could be supported for any of the relationships between health status and subjective well-being components in this study.

The author of the current study is unaware of any previous studies evaluating the constructs of hope, optimism, resilience, and self-efficacy as a composite; however, the adequate fit of Model 3 in the current study is consistent with some of the correlation analyses and suggests support for previous research involving the constructs when evaluated individually. For example, a study that focused on pain among older adults indicated that the intensity of pain experienced by the participants was not significantly improved by an increase in self-efficacy for managing pain; however, high self-efficacy for managing pain was negatively correlated with individuals' feelings of disability and depression related to their pain. The results of the study suggest that despite the actual level of physical pain, older adults with higher levels of self-efficacy may be able to cope with and adapt more readily to living with pain (Turner et al., 2005). This is consistent with the findings in the current study suggesting that the positive factors (evaluated as a

composite in the current study) might serve a protective role for older adults with perceived health problems.

Similarly, results of a previous study specifically examining resilience in older adults, suggested that high-resilient participants displayed more positive emotions which served to promote their ability to effectively adapt in the face of adversity. Those participants who were low in resilience tended to display more reactivity to stressful events and had difficulty regulating their negative emotions (Ong et al., 2006). These findings are also consistent with the current study's adequate fit of Model 3, indicating that positive factors (including resilience as part of the composite) may help allow older adults to maintain higher levels of positive affect and life satisfaction regardless of stressors experienced. As discussed previously, Wroblewski and Snyder (2005) also found that in community-dwelling older adults, "higher hope related to greater life satisfaction and better perceived physical health" (p.217).

Several previous studies on optimism have also shown results consistent with results of the current study. For example, results of a longitudinal study conducted with adults over the age of 80 suggested that "health-related events appeared to have a strong negative impact on well-being for all participants...health problems had the strongest effect on change in well-being" (Clémence et al., 2007, p. 209). Jones et al. (2003) found similar results in their study of older adults and predictors of well-being; results from their study corroborated the finding that health status – both perceived and actual – is a strong predictor of well-being in older adults. However, a series of research studies conducted by Taylor et al. (2000) indicates that positive psychological beliefs, such as optimism, may serve as valuable protective resources for physical health. These previous

findings are consistent with the adequate fit of Model 3 in the current study, which showed that the negative impact of lower perceived health on components of subjective well-being was mediated by positive psychological beliefs (including optimism as part of the composite). Additionally, these findings are consistent with the findings of a study by Ferreira and Sherman (2007) which indicated that the significant relationship between pain and life satisfaction is partially mediated by optimism. Ferreira and Sherman (2007) suggested that the mediating impact of optimism on the relationship between pain and life satisfaction could be interpreted in two possible ways: 1) increased pain may serve to decrease an individual's level of optimism; or 2) an optimistic disposition may serve as a buffer to decrease the negative impact of pain on life satisfaction. This same concept could certainly hold true for each of the positive psychological constructs considered in the current study.

The central goal across the primary hypotheses examined in this study was to investigate how the positive psychology constructs of hope, optimism, resilience, and self-efficacy might work together to mediate the relationship between subjective well-being and the environmental factors of health status, social support, and negative life events. While no previous research could be located which examined all of the components considered in the current study, the significant findings revealed in the current study are certainly consistent with prior research when examining many of the positive internal/dispositional components individually. Clinical implications from this study suggest that working to foster or maintain high levels of all four positive psychology variables examined in this research (i.e., hope, optimism, resilience, and self-

efficacy) may help preserve the sense of life satisfaction and positive affect in older adults who perceive themselves as having increased health concerns.

Limitations and Directions for Future Research

There are several main shortcomings of this study which should be taken into account when interpreting these findings. First, because participants in this study were comprised of a convenience sample of older adults who agreed to complete a 45-minute questionnaire, the sample would appear to be biased toward those who were relatively well-adjusted and healthy. It seems likely that older adults who felt better overall and had an overall positive outlook on life would be more willing to complete a fairly lengthy questionnaire. Another limitation of this study is the relatively homogenous nature of the sample. Although attempts were made to obtain a diverse sample, results indicated that the majority of participants were White, married, and living independently at home. Additionally, the geographic diversity of the sample was limited to rural and urban settings throughout Alabama and Texas. These limitations significantly reduce the generalizability of the findings to other ethnic groups, geographic regions, or those with more significant limitations requiring alternative living environments (e.g., assisted living or nursing facilities).

Lastly, given the extent of variables examined in this study, a larger sample size likely could have provided the power necessary to yield additional significant results by means of the path analytic models. While extensive efforts were made to obtain as large a sample size as possible, all available resources for identifying potential participants were exhausted to amass the current sample, thereby limiting the power desired for the path models. As a result of concerns about maintaining as large an N as possible for the path

analyses, mean imputation was applied for path modeling. Although the method of using mean imputation is preferable over listwise deletion in order to maintain a larger sample for analyses, it should be considered a limitation due to the risk of reducing variability and distorting the true distribution of the data (Kline, 2005). Additionally, having the slightly low coefficient alpha of .65 on the internal disposition composite score likely also negatively impacted the potential for additional model fits.

Given the shortcomings of this study, future research should be conducted with a larger, more diverse sample of older adults in order to enhance generalizability of findings regarding how positive psychology variables might work to protect the well-being of older adults facing an array of negative external factors. To this end, future researchers would likely benefit from minimizing the variables involved in any one particular study and choosing more simple, concise measures to help keep the total questionnaire completion time as brief as possible. By creating a questionnaire that could be completed in a shorter amount of time, researchers would likely minimize problems with low return rates. Additionally, shorter questionnaires would be more conducive to having participants complete them on-site, thereby eliminating concern about return rates and allowing the facilitator to answer any participant questions about the measures (possibly minimizing incomplete questionnaires due to confusion about directions, etc.). Furthermore, future research should also be conducted to examine the protective role these variables might play in a more chronically-ill population or with other special populations such as military personnel facing external stressors such as deployment to hostile regions.

REFERENCES

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Company.
- Bergin, L., & Walsh, S. (2005). The role of hope in psychotherapy with older adults. *Aging & Mental Health*, 9, 7-15.
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods*, 4, 62-83.
- Clémence, A., Karmaniola, A., Green, E. G. T., & Spini, D. (2007). Disturbing life events and wellbeing after 80 years of age: A longitudinal comparison of survivors and the deceased over five years. *Ageing & Society*, 27, 195-213.
- Cummins, R. A., & Nistico, H. (2002). Maintaining life satisfaction: The role of positive cognitive bias. *Journal of Happiness Studies*, 56, 267-283.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542-575.
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, 55, 34-43.
- Diener, E., & Emmons, R. A. (1985). The independence of positive and negative affect. *Journal of Personality and Social Psychology*, 47, 1105-1117.
- Federal Interagency Forum on Aging-Related Statistics. Older Americans 2008: Key indicators of well-being*. Washington, DC: U.S. Government Printing Office.

- Ferreira, V. M., & Sherman, A. M. (2007). The relationship of optimism, pain and social support to well-being in older adults with osteoarthritis. *Aging & Mental Health, 11*, 89-98.
- He, W., Sengupta, M., Velkoff, V. A., & DeBarros, K. A. (2005). *65+ in the United States: Current population reports, special studies*. Washington, DC: U.S. Government Printing Office.
- Hu, L., & Bentler, M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.
- Irving, L. M., Snyder, C. R., Cheavens, J., Gravel, L., Hanke, J., Hilberg, P., et al. (2004). The relationships between hope and outcomes at the pretreatment, beginning, and later phases of psychotherapy. *Journal of Psychotherapy Integration, 14*, 419-443.
- Jones, T. G., Rapport, L. J., Hanks, R. A., Lichtenberg, P. A., & Telmet, K. (2003). Cognitive and psychosocial predictors of subjective well-being in urban older adults. *The Clinical Neuropsychologist, 17*, 3-18.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: The Guilford Press.
- Linn, B. S., & Linn, M. W. (1980). Objective and self-assessed health in the old and very old. *Social Science and Medicine, 14*, 311-315.
- Magaletta, P. R., & Oliver, J. M. (1999). The hope construct, will and ways: Their relations with self-efficacy, optimism, and general well-being. *Journal of Clinical Psychology, 55*(5), 539-551.

- Murrell, S.A., Norris, F.H., & Hutchins, G.L. (1984). Distribution and desirability of life events in older adults: Population and policy implications. *Journal of Community Psychology, 12*, 301-311.
- Nygren, B., Al  x, L., Jons  n, E., Gustafson, Y., Norberg, A., & Lundman, B. (2005). Resilience, sense of coherence, purpose in life and self-transcendence in relation to perceived physical and mental health among the oldest old. *Aging & Mental Health, 9*(4), 354-362.
- Ong, A. D., Bergeman, C. S., Bisconti, T. L., & Wallace, K. A. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of Personality and Social Psychology, 91*, 730-749.
- Pavot, W., Diener, E., & Suh, E. (1998). The temporal satisfaction with life scale. *Journal of Personality Assessment, 70*(2), 340-354.
- Penninx, B. W. J. H., van Tilburg, T., Boeke, A. J. P., Deeg, D. J. H., Kriegsman, D. M. W., & van Eijk, J. T. M. (1998). Effects of social support and personal coping resources on depressive symptoms: Different for various chronic diseases? *Health Psychology, 17*, 551-558.
- Rossi, N. E., Bisconti, T. L., & Bergeman, C. S. (2007). The role of dispositional resilience in regaining life satisfaction after the loss of a spouse. *Death Studies, 31*, 863-883.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247.

- Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research*, 16, 201-228.
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67, 1063-1078.
- Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55, 5-14.
- Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science and Medicine*, 32, 705-714.
- Sherer, M., Maddux, J.E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R.W. (1982). The self-efficacy scale: Construction and validation. *Psychological Reports*, 51, 663-671.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., et al. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570-585.
- Steptoe, A., Wright, C., Kunz-Ebrecht, S. R., & Iliffe, S. (2006). Dispositional optimism and health behaviour in community-dwelling older people: Associations with healthy ageing. *British Journal of Health Psychology*, 11, 71-84.

- Taylor, S. E., Kemeny, M. E., Reed, G. M., Bower, J. E., & Gruenewald, T. L. (2000). Psychological resources, positive illusions, and health. *American Psychologist*, 55, 99-109.
- Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology*, 86, 320-333.
- Turner, J. A., Ersek, M., & Kemp, C. (2005). Self-efficacy in older adults with pain. *The Journal of Pain*, 6, 471-479.
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the resilience scale. *Journal of Nursing Measurement*, 1, 165-178.
- Walen, H. R., & Lachman, M. E. (2000). Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships*, 17(1), 5-30.
- Ware, J. E., & Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Medical Care*, 30, 473-483.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.
- Wroblewski, K. K., & Snyder, C. R. (2005). Hopeful thinking in older adults: Back to the future. *Experimental Aging Research*, 31, 217-233.

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